


APPENDIX M

Tier-1 and Tier-2 Site Characterization Report



Tier 1 Preliminary Site Evaluation and Tier 2 Site Characterization Report, Dickinson Renewable Diesel Facility Wind Turbine Project, Stark County, North Dakota

SEPTEMBER 2021

PREPARED FOR

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PREPARED BY

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**TIER 1 PRELIMINARY SITE EVALUATION AND
TIER 2 SITE CHARACTERIZATION REPORT,
DICKINSON RENEWABLE DIESEL FACILITY WIND TURBINE
PROJECT,
STARK COUNTY, NORTH DAKOTA**

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EXECUTIVE SUMMARY

One Energy Solutions, LLC (One Energy) is proposing to develop the Dickinson Renewable Diesel Facility Wind Turbine Project (proposed project). The proposed project is located approximately 4 miles west-southwest of Dickinson in Stark County, North Dakota. The proposed project's Development Area is approximately 31.3 acres on which turbines, associated access roads, and underground collection lines will be installed; a laydown yard and temporary workspaces will also occur within the Development Area. The Development Area is situated within a 1-mile radius known as the 1-mile buffer, totaling approximately 3,934.0 acres. The Development Area and 1-mile buffer are composed of approximately 3,383.2 acres of privately owned land and approximately 553.3 acres of U.S. Bureau of Reclamation land. One Energy contracted SWCA Environmental Consultants to complete an initial landscape-scale screening and site-level characterization of the proposed project's Development Area and 1-mile buffer following Tiers 1 and 2 (preliminary site evaluation and site characterization) of the U.S. Fish and Wildlife Service's (USFWS's) *Land-Based Wind Energy Guidelines* (USFWS 2012) and Stage 1 (site assessment) of the *Eagle Conservation Plan Guidance* (USFWS 2013).

The Tiers 1 and 2 assessments were completed through desktop evaluation of publicly available information and a site visit completed within the Development Area and 1-mile buffer on June 11, 2021. Aquatic resources were identified within the Development Area or 1-mile buffer that may provide stopover or nesting habitat for several wildlife species. Two federally listed species, the northern long-eared bat (*Myotis septentrionalis*) and whooping crane (*Grus americana*), may occur within the Development Area or 1-mile buffer, though anticipated use of the Development Area or 1-mile buffer by these species is expected to be occasional/rare. Bald eagles (*Haliaeetus leucocephalus*) may occur within the Development Area or 1-mile buffer year-round. In total, 48 species designated as North Dakota species of conservation priority and 20 birds of conservation concern may occur within the Development Area or 1-mile buffer.

Based on information obtained during the Tier 1 and 2 assessments, overall risk to wildlife, including northern long-eared bat and whooping crane, is considered relatively low. The project has a rated capacity of 11.75 MW and is thus considered to be a community-scale wind project under the USFWS's *Land-Based Wind Energy Guidelines*. Those guidelines state that "The Service anticipates that many distributed or community facilities will not need to follow the Guidelines beyond Tiers 1 and 2".

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1 INTRODUCTION

One Energy Solutions, LLC (One Energy) is proposing to develop the Dickinson Renewable Diesel Facility Wind Turbine Project (proposed project). The proposed project is located approximately 4 miles west-southwest of Dickinson in Stark County, North Dakota. The proposed project's Development Area is approximately 31.3 acres on which turbines, associated access roads, and underground collection lines will be installed; a laydown yard and temporary workspaces will also occur within the Development Area. For the purposes of this study, SWCA Environmental Consultants (SWCA) also assessed a 1-mile buffer centered on the proposed project's Development Area. The 1-mile buffer comprises an additional 3,902.7 acres. Together, the Development Area and the 1-mile buffer are located within approximately 3,934.0 acres (Figure 1). The Development Area and 1-mile buffer are composed of approximately 3,383.2 acres of privately owned land and 553.3 acres of U.S. Bureau of Reclamation (Reclamation) land. The Development Area and 1-mile buffer are located in Sections 9, 10, 11, 14, 15, 16, 21, 22, and 23 of Township 139 North, Range 97 West.

Study objectives were to provide information needed to address questions posed under Tier 1 Preliminary Site Evaluation and Tier 2 Site Characterization Study of the U.S. Fish and Wildlife Service's (USFWS's) *Land-Based Wind Energy Guidelines* (USFWS 2012). Additionally, site evaluation and characterization methods correspond with Stage 1 of the *Eagle Conservation Plan Guidance* (ECPG) (USFWS 2013). In some cases, species or resource-specific buffers outside of the Development Area or 1-mile buffer were assessed, as described below.

1.1 Applicable Statutes, Policies, and Regulations

The results of wildlife and habitat evaluations, aimed at determining which, if any, species may be affected by design, construction, operation, and decommissioning of wind and solar energy projects, are meant to inform efforts to achieve compliance with appropriate jurisdictional statutes.

1.1.1 Federal

1.1.1.1 ENDANGERED SPECIES ACT

Certain species at risk of extinction are protected under the federal Endangered Species Act of 1973 (ESA) (16 United States Code [USC] §1531 et seq., as amended). The ESA defines and lists species as "endangered" or "threatened" and provides regulatory protection for the listed species. The federal ESA also provides a program for the conservation and recovery of threatened and endangered species and for the conservation of designated critical habitat. Section 9 of the federal ESA prohibits the "take" of species listed by USFWS as threatened or endangered.

"Take" is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct" (16 USC 1532). Significant modification or degradation of listed species' habitats where the modification actually kills or injures wildlife by significantly impairing essential behavioral patterns is considered "harm" under ESA regulations. Section 10(a) of the federal ESA includes provisions for the authorization of take that is incidental to, but not the purpose of, otherwise lawful activities. Under Section 10(a)(1)(B), an Incidental Take Permit may be issued if take is incidental and does not jeopardize the survival and recovery of the species.

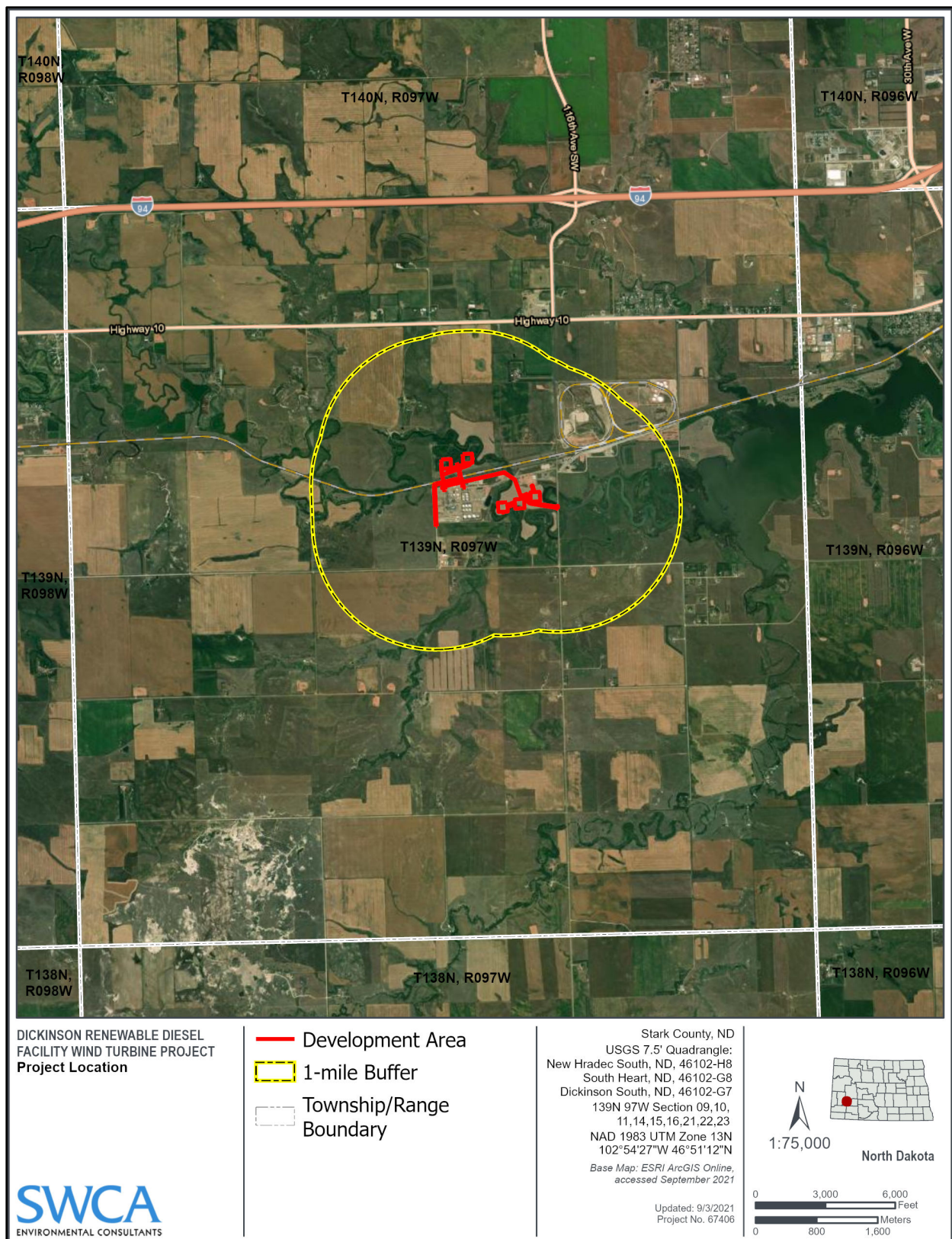


Figure 1. Dickinson Renewable Diesel Facility Wind Turbine Project Development Area and 1-mile buffer, Stark County, North Dakota.

1.1.1.2 MIGRATORY BIRD TREATY ACT

The Migratory Bird Treaty Act (MBTA) implements the United States' obligations under four treaties for the protection of migratory birds. The MBTA is administered by the USFWS, which maintains a list of all species protected by the MBTA (50 Code of Federal Regulations [CFR] 10.13). This list includes over 1,000 species of migratory birds, including eagles and other raptors, waterfowl, shorebirds, seabirds, wading birds, and passerines.

The MBTA makes it unlawful “by any means or in any manner, to pursue, hunt, take, capture, kill... possess, offer for sale, sell... purchase... ship, export, import... transport or cause to be transported... any migratory bird, any part, nest, or eggs of any such bird...” except as otherwise permitted under the regulations (16 USC 703). The USFWS has interpreted the MBTA to be a strict liability statute, meaning that proof of intent, knowledge, or negligence is not an element of an MBTA violation. Actions resulting in the “take” of a protected species, in the absence of a USFWS permit or regulatory authorization, are a violation.

The word “take” is defined by regulation as “to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect” (50 CFR 10.12). The MBTA does not have a provision directly prohibiting incidental takes and the definition of “take” does not include the broader terms of “harass” or “harm” that have been found to prohibit incidental take. There currently is no available regulatory mechanism to authorize take.

1.1.1.3 BALD AND GOLDEN EAGLE PROTECTION ACT

Under authority of the Bald and Golden Eagle Protection Act (BGEPA) (16 USC 668–668d), bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) are afforded additional legal protection. The BGEPA states that “no person shall knowingly, or with wanton disregard for the consequences of his act take, possess, sell, purchase, barter, offer for sale, purchase or barter, transport, export, or import, at any time or in any manner any bald eagle commonly known as the American eagle or any golden eagle, alive or dead, or any part, nest or egg thereof of the foregoing eagles... .” The BGEPA defines take to include “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb” (16 USC 668c), and includes criminal and civil penalties for violating the statute (16 USC 668). The term “disturb” is defined as agitating or bothering an eagle to a degree that causes, or is likely to cause, injury to an eagle, or a decrease in productivity or nest abandonment by substantially interfering with normal breeding, feeding, or sheltering behavior (50 CFR 22.3).

The BGEPA authorizes the Secretary of the Interior to permit the take of bald or golden eagles for several defined purposes, including when “necessary to permit the taking of such eagles for the protection of wildlife or of agricultural or other interests in any particular locality.” Based on this authority, the USFWS published a final rule (Eagle Permit Rule) on September 11, 2009 (see 50 CFR Parts 13 and 22) establishing two new permit types: 1) individual permits that can be authorized in limited instances of disturbance and in certain situations where other forms of take may occur, such as human or eagle health and safety; and 2) programmatic permits that may authorize incidental take that occurs over a longer period of time or across a larger area (USFWS 2016a). On December 16, 2016, the USFWS issued a revised Eagle Permit Rule that includes changes to the regulations for eagle incidental take permits and eagle nest take permits. The revisions to the Eagle Permit Rule went into effect on January 17, 2017, and include changes to permit issuance criteria, duration (including a maximum permit term of 30 years), compensatory mitigation standards, and permit application requirements.

1.1.2 State

1.1.2.1 NORTH DAKOTA CENTURY CODE CHAPTER 20.1-01-03

Pursuant to North Dakota Century Code Chapter 20.1-01-03 “the ownership of and title to all wildlife within the state is with the State of North Dakota for the purpose of regulating the enjoyment, use, possession, disposition, and conservation thereof, and for maintaining action for damages. Any person catching, killing, taking, trapping, or possessing any wildlife protected by law at any time or in any manner is deemed to have consented that the title thereto remains in the state for the purpose of regulating the taking, use, possession, and disposition thereof. The state, through the office of attorney general, may institute and maintain any action for damages against any person who unlawfully causes, or has caused within this state, the death, destruction, or injury of wildlife, except as may be authorized by law” (North Dakota Century Code 20.1-01-03).

1.1.2.2 STATE OF NORTH DAKOTA SPECIES OF CONSERVATION PRIORITY

The 2015 *North Dakota State Wildlife Action Plan* (SWAP) (Dyke et al. 2015) serves as the principal document for safeguarding rare and declining wildlife species in the state. The SWAP addresses 115 species that are assigned to one of three species of conservation priority (SCP) categories based on their conservation need.

- SCP Level I species are those with a high level of conservation priority due to declining populations in North Dakota or across the species’ range, or because North Dakota constitutes the core breeding range for a species that is at-risk range-wide. There are 37 SCP Level I species in the state.
- SCP Level II species are those with a moderate level of conservation priority, or species with a high level of conservation priority but substantial funding available. There are 43 SCP Level II species in the state.
- SCP Level III species are those with a moderate level of conservation priority but are believed to be peripheral or non-breeding in North Dakota. There are 35 SCP Level III species in the state.

Species designated as SCP are managed by the State of North Dakota under North Dakota Century Code Chapter 20.1-01-03 to benefit species of greatest conservation need and to ensure that common wildlife remain common (Hagen et al. 2005). While SCP species are not afforded any specific state regulatory protections, the State may consider impacts to these species during Public Service Commission review of the Project under the North Dakota Siting Act for energy conversion and transmission facilities, which is codified in Chapter 49-22 of the North Dakota Century Code.

2 METHODS

The preliminary site assessment and site characterization were completed using a combination of existing information obtained from publicly available sources including reports, published literature, online agency databases, geographic information system (GIS) data, and field reconnaissance.

2.1 Review of Existing Information and Publicly Available Sources

SWCA reviewed the following data sources to complete this study.

- USFWS Information for Planning and Conservation (IPaC) online mapping tool (USFWS 2021a) (Appendix A)
- USFWS Critical Habitat Mapper (USFWS 2020a)
- Wetlands of International Importance (Ramsar 2021)
- Wild and Scenic Rivers (National Wild and Scenic Rivers System 2021)
- National Hydrography Dataset (NHD) (U.S. Geological Survey [USGS] 2021)
- USFWS National Wetlands Inventory (NWI) data (USFWS 2021b)
- USGS National Land Cover Database (NLCD) (Yang et al. 2018)
- North Dakota 2015 SWAP (Dyke et al. 2015)
- National Audubon Society (Audubon) Important Bird Areas (IBAs) (Audubon 2021)
- USFWS Birds of Conservation Concern (BCC) (USFWS 2021c)
- eBird: An online database of bird distribution and abundance (eBird 2021)
- All About Birds data (Cornell Lab of Ornithology 2019)
- USGS North American Breeding Bird Survey (BBS) database (Pardieck et al. 2020)
- Western Hemisphere Shorebird Reserve Network (WHSRN) sites (WHSRN 2021)
- Species-specific migration corridors (e.g., whooping crane [*Grus americana*] migration corridor) (Pearse, Rabbe, Bidwell et al. 2018; Pearse, Rabbe, Juliusson et al. 2018)
- Natural Resources Conservation Service (NRCS) Land Resource Regions and Major Land Resource Areas of the United States, the Caribbean, and the Pacific Basin (NRCS 2006)
- NRCS Web Soil Survey (NRCS 2021a)
- The Nature Conservancy's Priority Conservation Areas (The Nature Conservancy 2021)
- USFWS National Wildlife Refuges (USFWS 2021e)
- Wilderness Areas of the United States (Wilderness Connect 2021)
- State parks (North Dakota Parks and Recreation Department 2019)

From these sources, SWCA developed a land cover map, an NHD/NWI areas map, a map of state and federally managed land, and a list of species of concern (see Section 3.4 for definition) with potential to occur in the 1-mile buffer and those species' typical habitat requirements. Based on species' habitat descriptions obtained from sources listed above, SWCA noted possible ecological attractants or habitat features for each species, such as large snags for bald eagles (federally protected under BGEPA) and forested areas for northern long-eared bats (*Myotis septentrionalis*; federally threatened).

One Energy also submitted a data request to the North Dakota Natural Heritage Inventory (NHI) on July 16, 2021, to obtain occurrence records for species of concern within the Development Area and adjacent lands. One Energy received an official response from the North Dakota NHI on July 27, 2021; the North

Dakota NHI report is provided in Appendix B. The North Dakota NHI review did not return any documented occurrences of rare plant or animal species within the Development Area or an approximate one-mile radius of the Development Area.

2.2 Site Reconnaissance

An SWCA biologist with expertise in the ecology of special-status species in the region conducted a site reconnaissance within the Development Area and 1-mile buffer on June 11, 2021. The site reconnaissance was conducted via windshield and pedestrian survey from public roads. The objectives were to:

- ground-truth NLCD land cover types and locations;
- document areas where land cover types provide potential habitat for species of concern (see Section 3.4);
- inspect areas of potential habitat for species of concern noted during the desktop assessment;
- document readily observable features that may attract wildlife; and
- record incidental wildlife observations.

Results of the field reconnaissance are included as part of individual sections in this report. Field-based wetland and waters of the U.S. verification was not conducted as part of the field reconnaissance. That effort will occur separately, if necessary, due to the specialized nature of conducting wetland delineations and required land access permission. Methodology and results of that effort will be detailed in a separate report.

3 RESULTS

3.1 Environmental Setting

The Development Area is within the Rolling Soft Shale Plain (MLRA) 54 (NRCS 2006). This area is in the Missouri Plateau, Unglaciaded, and Missouri Plateau, Glaciaded, Sections of the Great Plains Province of the Interior Plains. MRLA 54 is dominantly unglaciaded, but the eastern and northern edges have been glaciaded. The topography of this MLRA is characterized as occurring on an old, moderately dissected, rolling plain with some local badlands, buttes, and isolated hills. Terraces are adjacent to broad flood plains along most of the major drainages.

The average annual precipitation in this area is 14 to 18 inches (355–455 millimeters). Most of the rainfall occurs as convective thunderstorms during the growing season. Approximately half of the annual precipitation occurs as snow in the winter. The average annual temperature is 38 to 46 degrees Fahrenheit (3 to 8 degrees Celsius). The freeze-free period averages about 150 days and ranges from 130 to 165 days (NRCS 2006).

Soils within the Development Area and 1-mile buffer consist of primarily loams, silty clay loams, and fine sandy loams (NRCS 2021a). A considerable amount of soil disturbance has occurred as a result of existing development, including an oil refinery. Additional soil disturbance has occurred as a result of decades of agricultural practices (e.g., cultivation and cattle ranching). Existing modifications within the Development Area and 1-mile buffer include facilities associated with the existing oil refinery (i.e., access roads, parking areas, and associated buildings) and farmsteads and facilities associated with

farming and ranching (i.e., access roads and associated outbuildings). Existing electrical distribution lines and a railroad also occur within the Development Area and 1-mile buffer.

3.2 Land Cover

Land cover within the Development Area is predominantly cultivated crops, followed by herbaceous and developed lands. Land cover within the 1-mile buffer is predominantly shrub/scrub, followed by cultivated crops, and herbaceous (Table 1). During the June 2021 site reconnaissance, land cover was found to be generally consistent with NLCD mapping as described below (Figure 2; see Table 1).

Table 1. NLCD Land Cover Types within the Development Area and 1-mile buffer

Land/Vegetation Cover Type	Development Area (acres)	Percent of Development Area (acres)	1-mile Buffer (acres)	Percent of 1-mile Buffer (acres)
Cultivated crops	22.5	71.8	1,017.9	31.2
Herbaceous	3.7	11.9	600.7	15.4
Developed	2.6	8.2	463.3	11.9
Shrub/Scrub	1.5	4.8	1,218.1	31.2
Emergent herbaceous wetlands	0.6	1.9	149.9	3.8
Open water	0.3	0.9	94.9	2.4
Hay/Pasture	0.2	0.5	249.3	6.4
Deciduous forest	-	-	60.8	1.6
Woody wetlands	-	-	46.3	1.2
Mixed forest	-	-	1.3	<0.1
Barren land	-	-	0.2	<0.1
Total	31.1	100.0	3,902.7	100.0

Source: Yang et al. 2018.

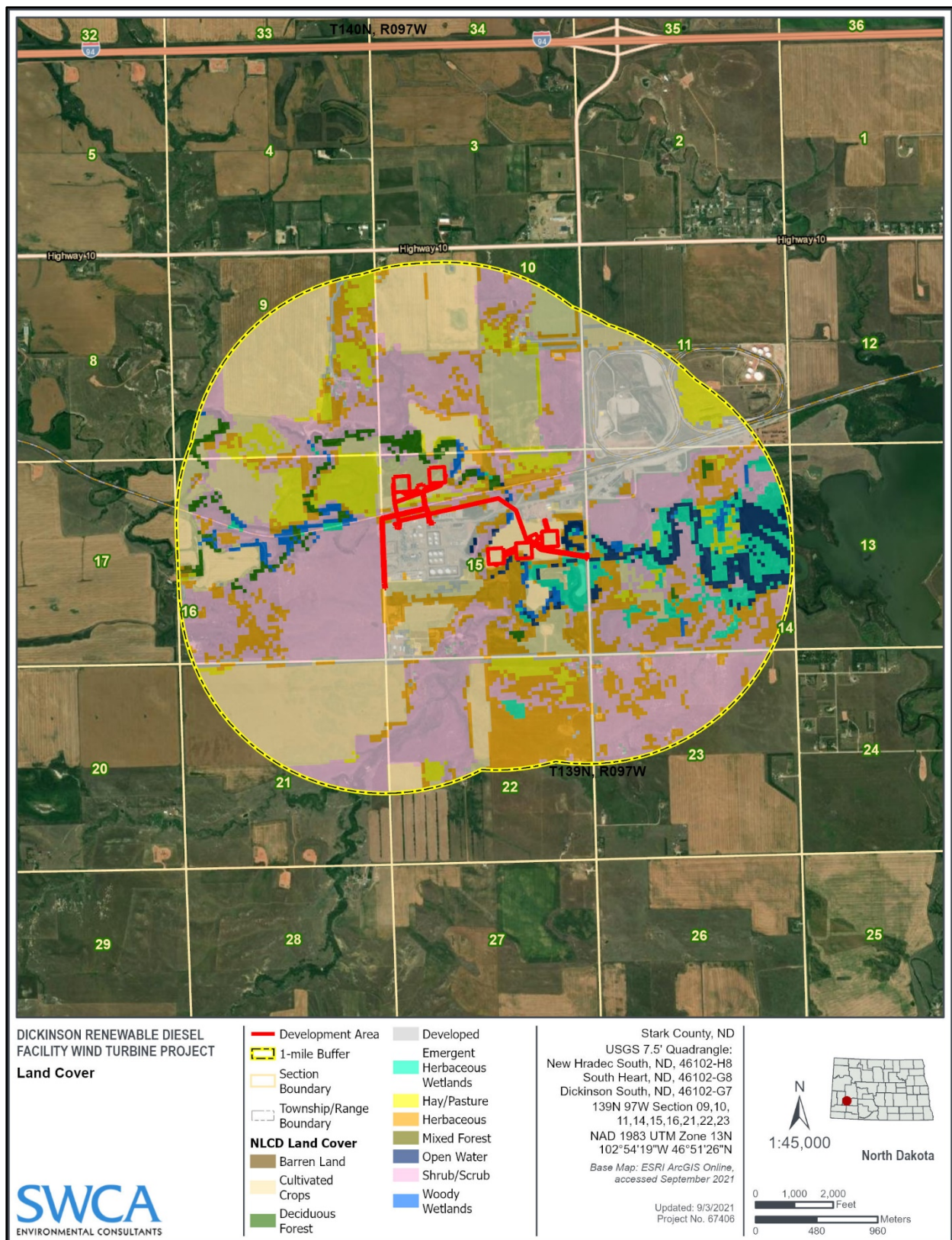


Figure 2. Land cover within the Dickinson Renewable Diesel Facility Wind Turbine Project Development Area and 1-mile buffer, Stark County, North Dakota.

3.3 Wetlands and Waters

The Development Area contains a small portion of the Heart River, though no additional notable water features are present. Notable water features within the 1-mile buffer include the Heart River, Edward Arthur Patterson Lake, and NHD-mapped unnamed streams (Figure 3) (USGS 2021). The mapped NHD watercourses within the Development Area and 1-mile buffer are summarized in Table 2.

Table 2. NHD Watercourses within the Development Area and 1-mile buffer

Feature Type	Length within Development Area (miles)	Length within 1-mile Buffer (miles)
Perennial stream	<0.1	4.3
Artificial path	<0.1	5.6
Intermittent stream	–	9.2
Total	<0.1	19.1

Review of the NHD identified one waterbody comprising approximately 0.4 acre (1.1%) of the Development Area. While this NHD waterbody is mapped as a lake/pond, it appears to be associated with the Heart River. An additional 10 waterbodies comprising approximately 81.6 acres (2.1%) of the 1-mile buffer were identified. The mapped NHD waterbodies within the Development Area and 1-mile buffer are summarized in Table 3.

Table 3. NHD Waterbodies within the Development Area and 1-mile buffer

Waterbody Type	Number within Development Area	Acres within Development Area	Percent of Development Area	Number within 1-mile Buffer	Acres within 1-mile Buffer	Percent of 1-mile Buffer
Lake/Pond – Perennial	1	0.4	1.1	2	76.0	1.9
Lake/Pond – Intermittent	–	–	–	7	3.1	0.1
Swamp/Marsh	–	–	–	1	2.5	0.1
Total	1	0.4	1.1	10	81.6	2.1

The USFWS generates NWI maps based on aerial photographs and infrared interpretation. SWCA reviewed NWI data (USFWS 2021b) to obtain broad-scale information regarding wetlands within the Development Area and 1-mile buffer. NWI data indicate that the Development Area contains four mapped wetland features comprising approximately 0.7 acre (approximately 2.2% of the Development Area) and include lakes, freshwater emergent wetlands, and riverine habitat (see Figure 3). NWI data indicate that the 1-mile buffer contains an additional 113 mapped wetland features comprising approximately 224.9 acres (approximately 5.7% of the 1-mile buffer). The NWI wetland covering the most area in the 1-mile buffer consists of a lake (approximately 106.9 acres, or 2.7% of the 1-mile buffer); however, freshwater ponds, freshwater emergent wetlands, riverine habitats, and freshwater forested/shrub wetlands are also mapped within the 1-mile buffer (see Figure 3). These mapped wetland features exist in the Development Area and throughout the 1-mile buffer. During the site reconnaissance, SWCA noted that many of these wetlands are wetlands associated with the Heart River or Edward Arthur

Patterson Lake or are associated with other mapped NHD streams. The mapped NWI wetlands within the Development Area and 1-mile buffer are summarized in Table 4.

Table 4. NWI Wetland Types within the Development Area and 1-mile buffer

Wetland Type	Number within Development Area	Acres within Development Area	Percent of Development Area	Number within 1-mile Buffer	Acres within 1-mile Buffer	Percent of 1-mile Buffer
Freshwater emergent wetland	2	0.3	1.0	67	74.3	1.9
Freshwater pond	–	–	–	12	9.3	0.2
Lake	1	0.3	1.0	2	106.6	2.7
Riverine	1	0.1	0.2	25	30.8	0.8
Freshwater forested/Shrub wetland	–	–	–	7	3.2	0.1
Total	4	0.7	2.2	113	224.1	5.7

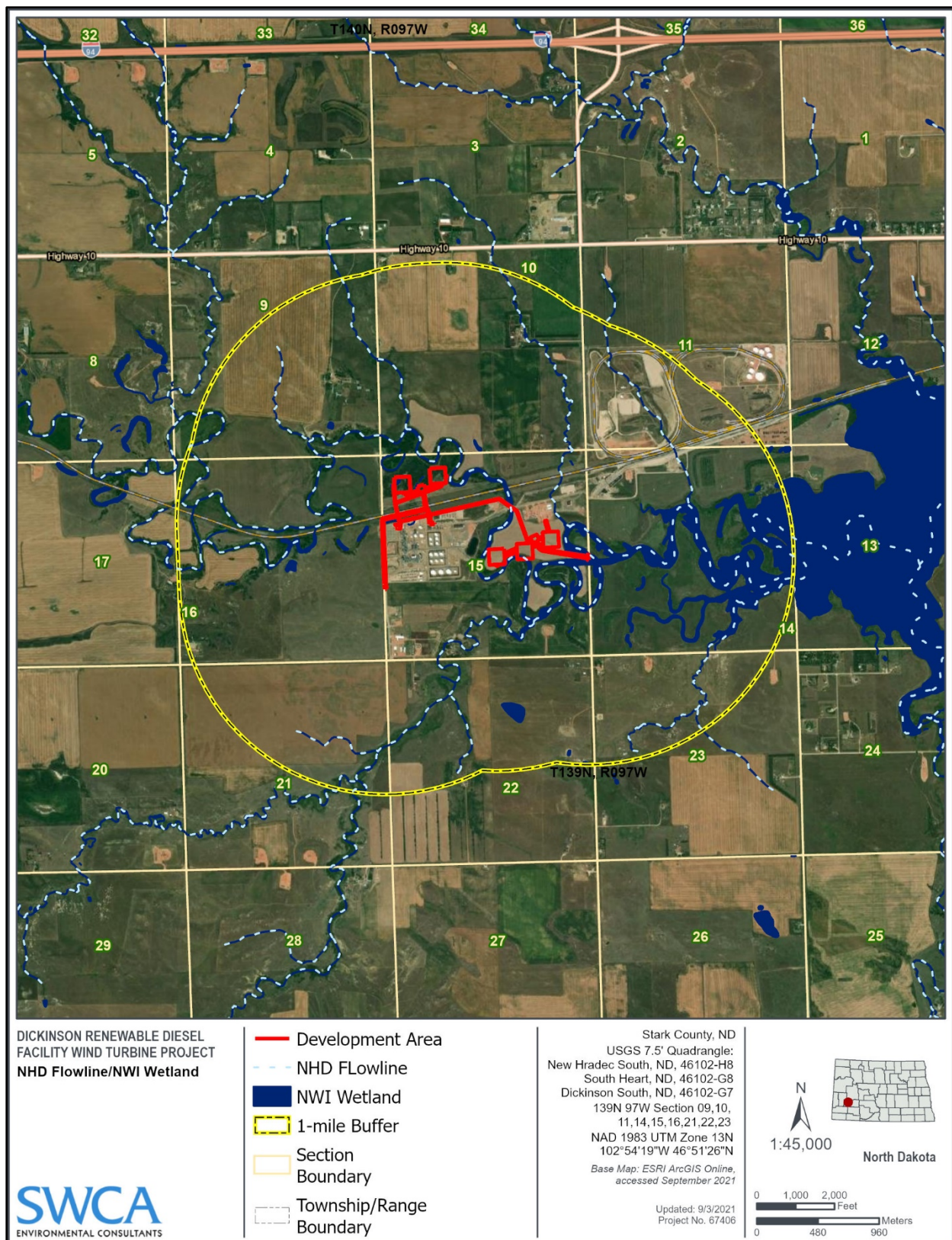


Figure 3. NHD Flowlines and NWI wetlands within the Dickinson Renewable Diesel Facility Wind Turbine Project Development Area and 1-mile buffer, Stark County, North Dakota.

3.4 Wildlife and Plant Species

Wildlife and plant species of concern, for purposes of this report, are considered:

- threatened and endangered species pursuant to Section 4 of the ESA, as amended;
- species designated by the USFWS as Proposed, Candidate, Species of Concern, and Nonessential Experimental Populations;
- bald eagles and golden eagles protected under the BGEPA;
- SCP Levels I, II, and III species listed in the North Dakota SWAP (Dyke et al. 2015); and
- BCC species as listed by the USFWS (2021c) and defined as “species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the ESA of 1973.”

The potential for each species of concern to occur in the Development Area or 1-mile buffer was classified according to the categories listed below. Because not all species are accommodated precisely by a given category (i.e., category definitions may be too restrictive), an expanded rationale for each category assignment was provided for some species.

- Known to occur—the species has been documented in the Development Area or 1-mile buffer by a reliable observer.
- May occur—the Development Area or 1-mile buffer is within the species’ currently known range, and vegetation communities, soils, or other habitat conditions resemble those known to be used by the species.
- Unlikely to occur—the Development Area or 1-mile buffer is within the species’ currently known range, but vegetation communities, soils, or other habitat conditions do not resemble those known to be used by the species, or the Development Area or 1-mile buffer is clearly outside the species’ currently known range.

3.4.1 Federally Protected Species

The IPaC search identified the following two federally listed species as having potential to occur in the Development Area and 1-mile buffer (USFWS 2021a) (see Appendix A).

- Whooping crane (federally endangered and a state SCP III species)
- Northern long-eared bat (federally threatened and a state SCP I species)

The Development Area and 1-mile buffer are within both species’ geographical range and contain potentially suitable habitat as described in Sections 3.4.1.1 and 3.4.1.2 below.

In addition, SWCA’s review of the North Dakota SWAP identified three additional federally listed species whose possible or historical ranges in North Dakota overlap the 1-mile buffer (Dyke et al. 2015). As presented in Appendix C, these three species are piping plover (*Charadrius melodus*; federally threatened and a state SCP Level II species), red knot (*Calidris canutus rufa*; federally threatened and a state SCP Level III species), and black-footed ferret (*Mustela nigripes*; federally endangered and a state SCP Level II species). These species are unlikely to occur within the Development Area or 1-mile buffer based on range and habitat characteristics.

3.4.1.1 WHOOPING CRANE

North Dakota is within the whooping crane migration corridor and the species may stop over in suitable habitat anywhere within the corridor (Pearse, Rabbe, Bidwell et al. 2018; Pearse, Rabbe, Juliusson et al. 2018). Suitable stopover habitat includes cropland and pastures, wet meadows, shallow marshes, and waterbodies (USFWS 2010).

The 95% whooping crane migration corridor is the area that encompasses 95% of all whooping crane sightings recorded during seasonal migrations from Aransas National Wildlife Refuge in Texas to Wood Buffalo National Park in Alberta, Canada (as delineated by Pearse, Rabbe, Bidwell et al. 2018 and Pearse, Rabbe, Juliusson et al. 2018). The Development Area and 1-mile buffer are within the 95% migration corridor, which indicates that it is possible for the species to be present within the Development Area and 1-mile buffer at some point of the year during annual migration. Niemuth et al. (2018) developed a model and predictive map showing relative probability of occurrence across North Dakota and South Dakota using GIS data layers and validation using independent, unbiased locations from GPS-collared whooping cranes to predict habitat use by migrant whooping cranes. The model indicates that relative probability of use by migrant whooping cranes is low within the Development Area and 1-mile buffer (Niemuth et al. 2018).

Review of the USFWS Whooping Crane Tracking Project Database indicates there are no whooping crane observation records within 10 miles of the Development Area. The closest whooping crane observation is from fall 1977, approximately 22.5 miles northeast of the Development Area. The second closest observation is from spring 2018, approximately 25.85 miles northeast of the Development Area (USFWS 2021d). Agricultural land and wetlands within the 1-mile buffer may provide potentially suitable stopover habitat for whooping cranes. Therefore, the whooping crane may occur as an overhead migrant within the Development Area or 1-mile Buffer.

3.4.1.2 NORTHERN LONG-EARED BAT

The range of northern long-eared bat extends throughout most of southern Canada, as well as the eastern and midwestern United States (excluding parts of the southeast United States) and is primarily associated with North American forests (USFWS 2018). The northern long-eared bat hibernates during winter months in caves and mines with constant temperatures and very high humidity (USFWS 2019). Summer habitat for the northern long-eared bat consists of forested areas with trees greater than 3 inches in diameter at breast height (USFWS 2019). Northern long-eared bats roost in live trees and/or snags that have exfoliating bark, cracks, crevices, and/or cavities (USFWS 2019). The species typically forages in forest interiors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure (USFWS 2020b). Northern long-eared bats also may roost in human-made structures such as buildings, barns, bridges, and bat houses (USFWS 2019).

The USFWS lists the northern long-eared bat as possibly present in Stark County, indicating that Stark County is within the range of the species and may contain suitable habitat. However, the species is considered rare in North Dakota and has only been identified in a few locations in the state (Dyke et al. 2015). The few documentations of the species are from forested habitat in the Turtle Mountains approximately 200 miles northeast of the Development Area, and in the riparian corridors of the Little Missouri and Missouri Rivers approximately 100 miles east at the closest point and approximately 30 miles west at the closest point to the Development Area (Dyke et al. 2015). Additionally, the northern long-eared bat was documented during a bat presence study between 2009 and 2012 in the Missouri River Valley (Nelson et al. 2015). The North Dakota NHI review of the proposed project did not identify any records of sensitive species within the Development Area or within an approximate one-mile radius of the Development Area, including northern long-eared bat. To date, no northern long-eared bat hibernacula

have been identified in North Dakota (Dyke et al. 2015). The closest known hibernacula to the Development Area occur in the Black Hills, South Dakota, approximately 170 miles southwest of the Development Area (South Dakota Bat Working Group 2004).

Northern long-eared bats are considered a forest interior species. A study of northern long-eared bats within a managed forest in West Virginia found that this species forages in areas with forest patch sizes between 114 and 161 acres (Owen et al. 2003). Research conducted in Michigan and Prince Edward Island, Canada, within a landscape dominated by agricultural activity showed that northern long-eared bats may use woodlots as small as 15 acres (Foster and Kurta 1999; Henderson and Broders 2008). Recent studies from Michigan suggest that northern long-eared bats may use woodlots as small as 10 acres (Natalie Gates, USFWS, personal communication, July 16, 2019). SWCA reviewed recent aerial imagery, combined with NLCD land cover data, to delineate forested areas within the Development Area and a 2-mile buffer. A 2-mile buffer was assessed to capture any potential habitat within a larger radius surrounding the development area. Forest patches smaller than 10 acres were considered unsuitable for northern long-eared bats. Using this criterion, approximately 18.7 acres of forested habitat may be suitable for northern long-eared bat within a 2-mile buffer. Of the 18.7 acres of contiguous forested habitat, approximately 0.3 acre of forested habitat occurs within the Development Area that may be suitable for northern long-eared bat (Figure 4). Observations made during the site reconnaissance visit indicate that suitable habitat in the Development Area and 1-mile buffer for northern long-eared bats is limited and occurs primarily in the form of trees along the Heart River.

Federal listing of the northern long-eared bat includes a 4(d) rule that identifies specific protections and prohibitions on incidental take in counties affected by white-nose syndrome. Stark County is within the white-nose syndrome zone for the northern long-eared bat (USFWS 2016b); therefore, the 4(d) rule would apply. The 4(d) rule would only affect the proposed project in terms of tree-clearing restrictions if a roost tree or hibernaculum were confirmed to be present within 0.25 mile of the proposed project, if a known roost tree or occupied maternity roost tree were destroyed, or if removal of trees occurs within a 150-foot radius of a maternity roost tree during the pup season (USFWS 2016b).

Based on species range and the presence, albeit limited, of potentially suitable habitat, the northern long-eared bat may occur within the Development Area and 1-mile buffer. However, SWCA expects the likelihood of occurrence in the Development Area and 1-mile buffer to be low due to the lack of records, paucity of known hibernacula, or maternity roost trees within the state.

The range and habitat requirements for all federally listed and North Dakota species of conservation species with the potential to occur within the Development Area or 1-mile buffer, including the northern long-eared bat, are provided in Table C-1 in Appendix C.

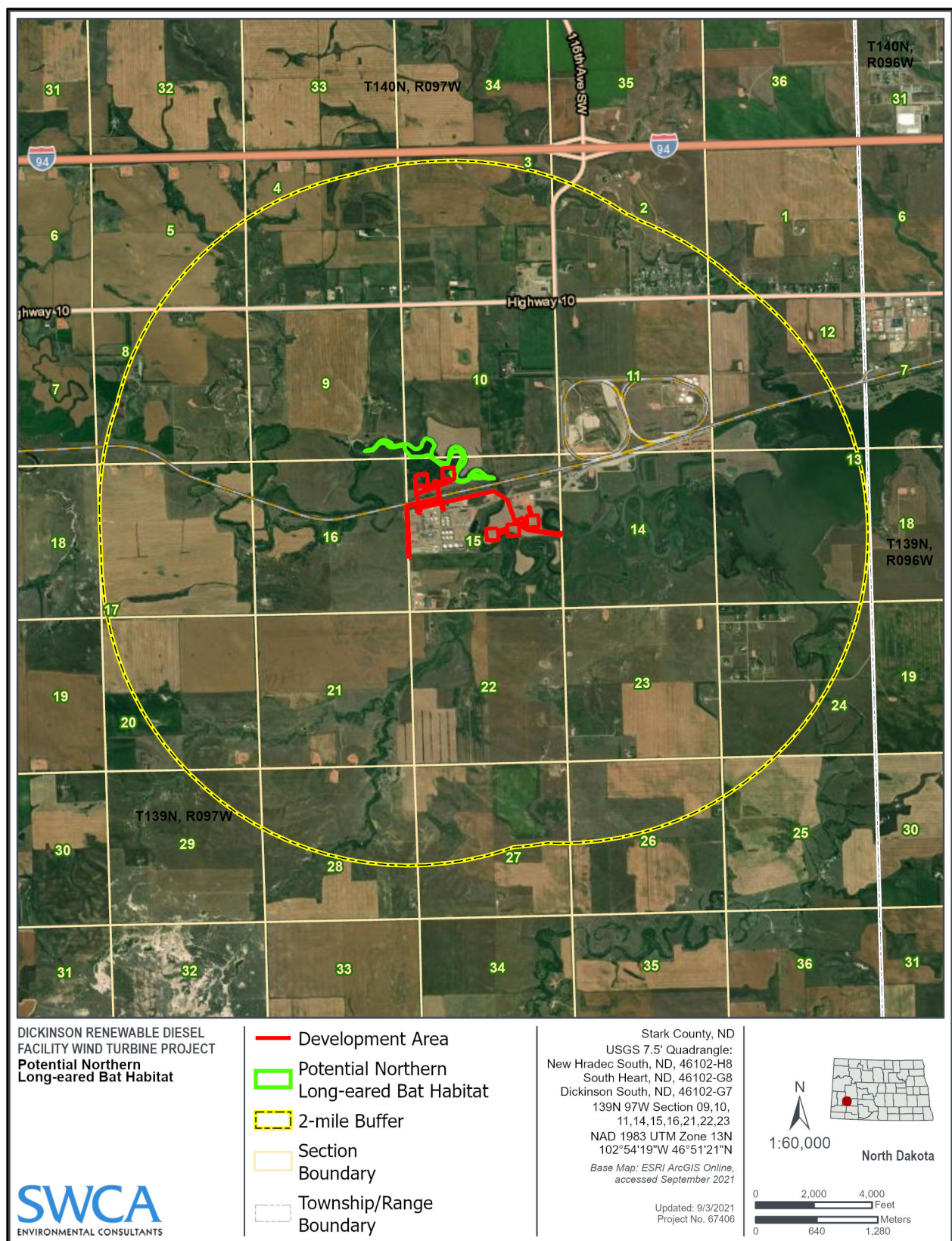


Figure 4. Suitable northern long-eared bat habitat within the Dickinson Renewable Diesel Facility Wind Turbine Project Development Area and 2-mile buffer, Stark County, North Dakota.

3.4.1.3 EAGLES

The Development Area and 1-mile buffer are within the year-round range for bald eagles and within the migration range for golden eagles (see Appendix C). Bald and golden eagles are afforded protection under the BGEPA. No incidental observations of bald or golden eagles, or their nests, were made during the site reconnaissance visit. A discussion of each species, and their likelihood of occurrence in the Development Area or 1-mile buffer, follows.

3.4.1.4 BALD EAGLE

Bald eagle primary range within the state includes eastern North Dakota and the Missouri River corridor (Dyke et al. 2015). Stark County is included in the secondary range for this species in North Dakota. The bald eagle is both a year-round resident and a migrant species in the state. Bald eagle habitat includes large rivers, lakes, or wetlands near mature stands of trees or a single large tree. Bald eagles build stick nests as large as 10 feet in diameter in trees, and occasionally on human-made structures (USFWS 2007), typically less than 1.2 miles from open water (Dyke et al. 2015).

A 2009 statewide census conducted by the North Dakota Game and Fish Department (NDGFD) documented 66 nests thought to be occupied by bald eagles, none of which occurred in Stark County (Johnson 2009). The majority of nests were located in live cottonwood trees. The eBird database returned no bald eagle observations within the Development Area or 1-mile buffer; however, two recent observations were recorded approximately 0.1 mile west of the 1-mile buffer. Both observations were located at the corner of 39th Street southwest and 115th Avenue southwest. An observation of two adults was made on April 8, 2021, and an observation of one adult was observed on April 28, 2021, in the vicinity of the Heart River and Edward Arthur Patterson Lake (eBird 2021). One Energy submitted a request to NDGFD for records of known bald eagle nests within two miles of the Development Area; One Energy received a response on August 3, 2021 stating that no bald eagle nests are known within two miles of the Development Area.

Trees suitable for nesting bald eagles were not observed within the Development Area during site reconnaissance; however, suitable nesting trees (i.e., large, mature cottonwood trees) were observed within the 1-mile buffer adjacent to the Development Area and associated with the Heart River and Edward Arthur Patterson Lake. Wetlands and streams within the Development Area and 1-mile buffer associated with the Heart River or Edward Arthur Patterson Lake have the potential to attract migrant waterfowl and, therefore, bald eagles during spring and fall migration. Potential bald eagle prey items within the Development Area and 1-mile buffer also likely include carrion, fish, mammals, and waterfowl (Dyke et al. 2015). Open water including lakes, streams, or ponds are present within and surrounding the Development Area and 1-mile buffer (see Section 3.3; see Figure 3).

Due to the presence of suitable foraging habitat within the Development Area and 1-mile buffer and known eagle occurrences nearby, bald eagles are expected to be present in the Development Area and 1-mile buffer during any season.

3.4.1.5 GOLDEN EAGLES

Golden eagles favor partially or completely open country, particularly near mountains, hills, and cliffs. They use a variety of habitats ranging from arctic to desert, including tundra, shrublands, grasslands, coniferous forests, farmland, and areas along rivers and streams (Cornell Lab of Ornithology 2019). Golden eagles are uncommon in North Dakota and the Development Area and 1-mile buffer occur in the secondary range for this species. (Dyke et al. 2015). Key areas for the golden eagle in the state include the badlands of western North Dakota and the Lake Sakakawea breaks (Dyke et al. 2015).

Review of the eBird database returned no golden eagle observations within the Development Area or 1-mile buffer. The closest golden eagle observation was recorded approximately 1.18 miles east of the 1-mile buffer. The observation was located near where 114th Avenue southwest enters the Edward Arthur Patterson Lake Recreation Area. One golden eagle adult was observed on April 10, 2019, in the vicinity of Edward Arthur Patterson Lake (eBird 2021). One Energy submitted a request to NDGFD for records of known golden eagle nests within two miles of the Development Area; One Energy received a response on August 3, 2021 stating that no golden eagle nests are known within two miles of the Development Area. The closest known golden eagle nest is located approximately 3.5 miles outside of the Development Area.

Potential golden eagle main prey items within the Development Area or 1-mile buffer may include rabbits (e.g., eastern cottontail [*Sylvilagus floridanus*], white-tailed jackrabbit [*Lepus townsendii*]). Secondary prey items with potential to be present in the Development Area or 1-mile buffer include waterfowl species, carrion (e.g., cattle, coyote [*Canis latrans*]), and skunk (*Mephitis mephitis*) (Dyke et al. 2015). Potential prey concentration areas within the Development Area and 1-mile buffer include wetlands and open water features associated with the Heart River and Edward Arthur Patterson Lake containing waterfowl.

Due to the Development Area and 1-mile buffer being within the secondary range of the golden eagle, the presence of suitable foraging habitat, known eagle occurrences nearby, and because available prey bases may be present, there is potential for golden eagles to pass through the Development Area or 1-mile buffer during any season (Cornell Lab of Ornithology 2019).

Eagle migration concentration sites are associated with negative barriers, such as large bodies of water, or mountain ridges that offer energy-efficient flight via updrafts. The nearest known raptor migration sites are where the main Pembina Gorge and Little Pembina Gorge join near Windygates, Manitoba, approximately 260 miles northeast of the Development Area (Hawk Migration Association of North America 2021). The USFWS defines an *important eagle use area* as “an eagle nest, foraging area, or communal roost site that eagles rely on for breeding, sheltering, or feeding, and the landscape features surrounding such nest, foraging area, or roost site that are essential for the continued viability of the site for breeding, feeding, or sheltering eagles” (USFWS 2013:12).

At this stage, no important eagle use areas or migration concentration sites have been identified within the Development Area or 1-mile buffer. No known communal eagle roost sites—generally associated with bald eagles—are within or proximal to the Development Area and 1-mile buffer; however, this may be because of a lack of surveys rather than a lack of presence.

3.4.2 Birds of Conservation Concern

The USFWS’s BCC (USFWS 2021c) identifies species within ecological Bird Conservation Regions (BCRs) that are priorities for conservation action with the intent to prevent or remove the need for ESA listing by taking proactive management and conservation actions. The Development Area is within BCR 17, Badlands and Prairies (USFWS 2021c). Twenty-six (26) BCC species are listed for BCR 17. The USFWS BCC species for BCR 17, their habitat affinities, and their potential for occurrence within the Development Area or 1-mile buffer are listed in Table C-1 in Appendix C. No BCC species were observed within the Development Area or 1-mile buffer during field reconnaissance. Based on results of the Tiers 1 and 2 site assessments and the habitat affinities of the BCC species, 20 BCC species have potential to occur within the Development Area or 1-mile buffer (see Table C-1 in Appendix C).

3.4.3 State of North Dakota Species of Conservation Priority

SWCA assessed all 115 North Dakota SCP species for the potential to occur within the Development Area or 1-mile buffer based on species range and habitat characteristics (refer to Table C-1 in Appendix C). Of those species, 48 species categorized as SCP Levels I, II, or III may occur within the Development Area or 1-mile buffer, including two federally listed species and bald and golden eagles. None of these species were observed within the Development Area or 1-mile buffer during the field reconnaissance visit. All remaining SCP species assessed were determined to be unlikely to occur within the Development Area or 1-mile buffer based on range and habitat characteristics.

The Development Area is within the SWAP’s Heart River focus area. The Heart River travels approximately 180 miles through western North Dakota, where land use practices have contributed to conservation concerns such as reduced riparian width, lack of native riparian plant diversity, stream bank erosion, channel sedimentation, and increased runoff. While various SCP species may occur within the Heart River focus area, key species of conservation priority for this area, as listed in the SWAP, include the northern redbelly dace (*Chrosomus eos*) and flathead chub (*Platygobio gracilis*).

The North Dakota SCP species, their habitat affinities, and their potential for occurrence within the Development Area or 1-mile buffer are provided in Table C-1 in Appendix C.

3.4.4 U.S. Geological Survey Breeding Bird Survey

The USGS BBS is a volunteer-based program designed to monitor the status and trends of North American breeding bird populations. Annual surveys are conducted, typically in June, along established 24.5-mile-long road routes with 3-minute point counts performed every 0.5 mile. BBS data are used to monitor bird populations across North America and inform researchers and wildlife managers (such as the USFWS, state natural heritage programs, and Partners in Flight) of significant changes in bird population levels.

The nearest BBS route (Pardieck et al. 2020), Dickinson Route (64021), is located approximately 6.6 miles north of the Development Area (Figure 5). The habitat along the Dickinson Route is similar to that within the Development Area and 1-mile buffer (i.e., primarily agricultural fields with emergent wetlands and open water features) (Google Earth 2021). The 10 most common birds recorded on the BBS route in 2019 (the most recent year that data were available) are characteristic of open habitats within a mixed agricultural landscape (Table 5). None of these species are federally listed as threatened or endangered, SCP species, or BCC; however, six BCC were recorded along this route in 2019: Baird’s sparrow (*Ammodramus bairdii*), Sprague’s pipit (*Anthus spragueii*), marbled godwit (*Limosa fedoa*), grasshopper sparrow (*Ammodramus savannarum*), northern harrier (*Circus hudsonius*), and bobolink (*Dolichonyx oryzivorus*).

Table 5. Most Common Species Observed on the Dickinson Route in 2019

Common Name*	Scientific Name
Western meadowlark	<i>Sturnella neglecta</i>
Ring-necked pheasant	<i>Phasianus colchicus</i>
Mourning dove	<i>Zenaida macroura</i>
Horned lark	<i>Eremophila alpestris</i>

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Red-winged blackbird	<i>Agelaius phoeniceus</i>
Brown headed cowbird	<i>Molothrus ater</i>
American robin	<i>Turdus migratorius</i>
Savannah sparrow	<i>Passerculus sandwichensis</i>
Bobolink	<i>Dolichonyx oryzivorus</i>
Cliff swallow	<i>Petrochelidon pyrrhonota</i>

* Species are listed in order of abundance.

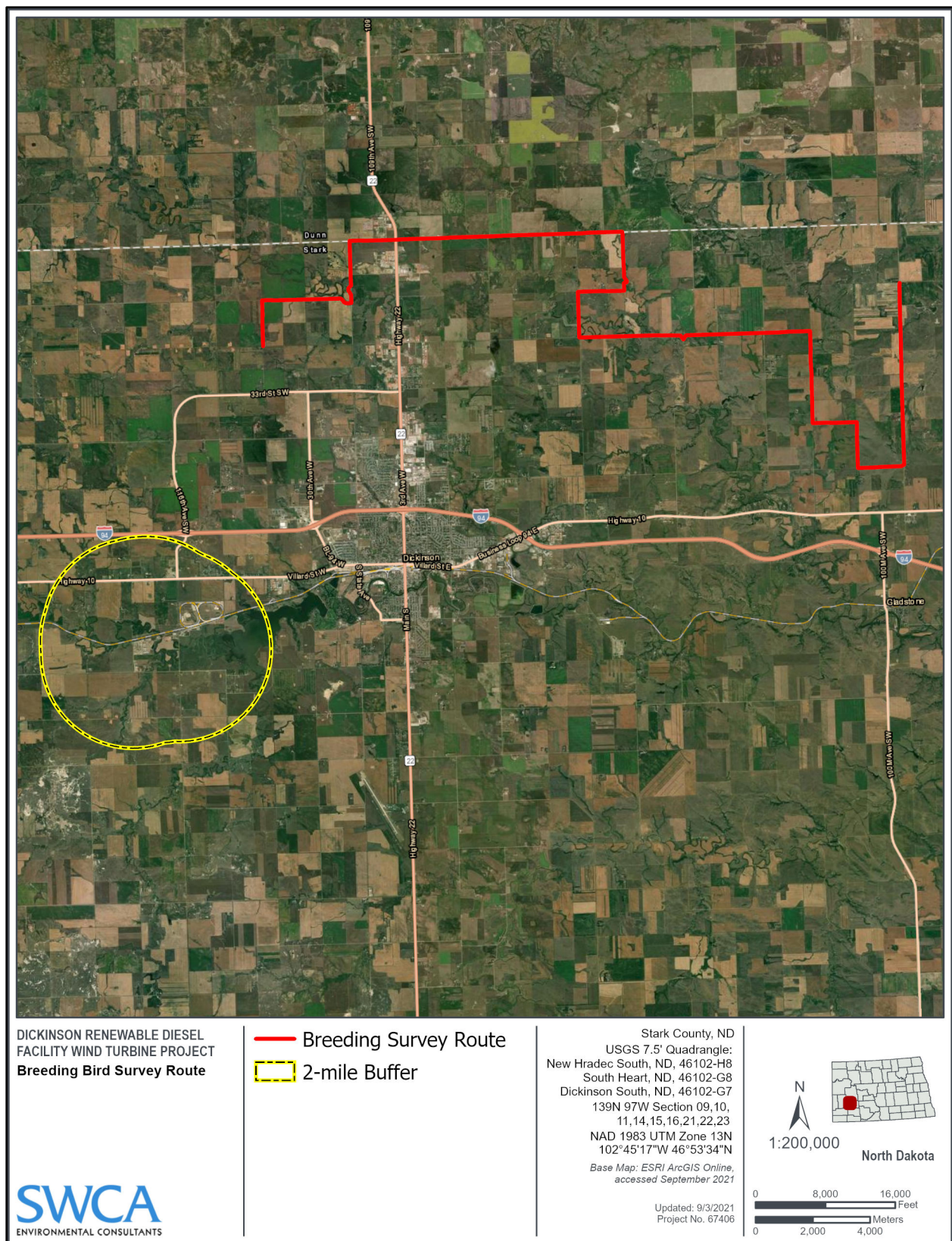


Figure 5. Breeding Bird Survey Route closest to the Dickinson Renewable Diesel Facility Wind Turbine Project 2-mile buffer, Stark County, North Dakota.

3.4.5 Raptors

Sixteen (16) diurnal raptor species occur regularly in North Dakota (NDGFD 2019a). Based on known range and distribution, many of these species have the potential to occur within the Development Area or 1-mile buffer at some point during the year, either during the nesting season, migration, or winter. The habitat in the Development Area and 1-mile buffer (see Section 3.2) indicates that diurnal raptor species typical of open and agricultural landscapes, such as bald eagle, red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), northern harrier (*Circus hudsonius*), and Swainson's hawk (*Buteo swainsoni*) may be present during the nesting season (approximately March 15–July 15).

Relatively few mature trees are present within the Development Area that could provide nesting habitat for tree nesting raptors, though mature trees suitable for nesting were observed within the 1-mile buffer. These trees may provide nesting habitat for species such as the red-tailed hawk and American kestrel (see Figure 2). Solitary trees or shelterbelts near agricultural fields may provide nesting habitat for species such as the Swainson's hawk. Wetland vegetation, such as cattails (*Typha* spp.) and willows (*Salix* spp.), may provide nesting habitat for species such as the northern harrier, which is a ground-nesting raptor species (see Figure 2).

One red-tailed hawk was observed in Development Area during the site reconnaissance visit.

3.4.6 Lekking Species

Lekking species are species that form seasonal aggregations characterized by male display. The Development Area and 1-mile buffer are within the primary range of the sharp-tailed grouse (*Tympanuchus phasianellus*) as mapped by the NDGFD (Dyke et al. 2015) and the species has been documented within 10 miles of the Development Area (eBird 2021). Sharp-tailed grouse are typically found in mixed-grass prairie interspersed with shrubs or small trees and are also known to nest in lightly grazed pasture or haylands. The Development Area consists of primarily cultivated cropland and as such is not likely to support nesting sharp-tailed grouse, though sharp-tailed grouse may forage within the Development Area. Suitable nesting and foraging habitat were observed within the 1-mile buffer during site reconnaissance. As such, the potential exists for sharp-tailed grouse leks and individuals to occur within the Development Area and 1-mile buffer.

3.4.7 Bats

Eleven (11) bat species are known to occur in North Dakota (Nelson et al. 2015). Based on known distribution, six bat species may occur in Stark County (Bat Conservation International 2021; Dyke et al. 2015). These species are eastern red bat (*Lasiurus borealis*), hoary bat (*L. cinereus*), little brown bat (*Myotis lucifugus*; an SCP Level I species), northern long-eared bat (federally threatened and an SCP Level I species), big brown bat (*Eptesicus fuscus*; an SCP Level I species), and silver-haired bat (*Lasionycteris noctivagans*) (Bat Conservation International 2021; Dyke et al. 2015).

A study between 2009 and 2012 that used mist netting and acoustic surveys to document bat species presence across North Dakota documented 10 bat species, either through capture via mist netting, or via acoustic surveys, in the Missouri River Valley of North Dakota (Nelson et al. 2015). Some of these species are the same as those listed above based on distribution range maps (Nelson et al. 2015). During the 2009 through 2012 study (Nelson et al. 2015) Townsend's big-eared bat (*Corynorhinus townsendii*; an SCP Level I species), big brown bat, silver-haired bat, little brown bat, the northern long-eared bat, eastern red bat, hoary bat, western small-footed bat (*Myotis ciliolabrum*; an SCP Level III species), Long-legged bat (*Myotis Volans*; an SCP Level III species), and long-eared bat (*Myotis evotis*; an SCP Level III species) were documented in the Missouri River Valley. The 1-mile buffer is approximately 30 miles west

at the closest point to the Missouri River; therefore, it is possible that these species may occur within the Development Area and 1-mile buffer. Of these species, the only federally listed bat species with potential to occur in the Development Area and 1-mile buffer is the northern long-eared bat (also an SCP Level I species), which is discussed in detail in Section 3.4.1.2. SCP bat species are discussed in Table C-1 in Appendix C.

Bat roosting sites may vary by species, season, and time of day (e.g., during the day, roosts are used for rest and raising young; at night, roosts are used for ingesting food, resting, and avoiding inclement weather or predators). Bats roost singly, in small groups, or in large numbers in naturally occurring and human-made structures including caves, rock crevices, bird nests, most parts of trees (e.g., inside cavities or hollow logs, under loose bark, inside furled leaves, on branches), mines, buildings, bridges, and culverts (Bat Conservation International 2021). Many bats raise their young in spring-season nursery or maternity roosts; site fidelity at these sites is highly variable (Bat Conservation International 2021). Hibernacula sites—commonly caves and abandoned mines—are typically restricted to those with relatively stable temperatures and relative humidity (Bat Conservation International 2021). Trees and human-made structures within the Development Area and 1-mile buffer could provide roosting habitat for several species of bats, though it is unknown whether the Development Area and 1-mile buffer contain sites that could be used as hibernacula by hibernating bats.

3.4.8 Staging Areas, Migration Stopovers, and Corridors

Staging areas are those with abundant, predictable food resources where, for example, birds prepare for an energetic challenge (typically a long flight over a geographic barrier) requiring substantial food stores (Warnock 2010). Such staging areas are seen for birds such as waterfowl, cranes, shorebirds, and songbirds. Examples of staging sites include Delaware Bay; Copper River Delta, Alaska; Platte and North Platte Rivers, Nebraska; Mono Lake, California; Great Salt Lake, Utah; and the Yucatan peninsula. Some smaller, lesser-known interior sites that do not meet WHSRN numeric criteria but provide consistent water availability and quality may also be important to some shorebird species that migrate in small flocks (Robinson and Warnock 1996).

The terms *stopover* and *staging area* are often used interchangeably. Stopover sites may be defined more broadly as sites where birds rest and feed during migration to refuel or avoid adverse conditions (Warnock 2010). Though most species migrate on broad fronts and stopover strategies among and within species are complex, fragments of forested areas and riparian corridors (i.e., oases relative to the surrounding landscape) often provide important stopover habitats.

The Development Area is within BCR 17 (Badlands and Prairies). BCR 17 contains many contiguous grassland tracts of significant size which is habitat for some of the healthiest populations of high priority dry-grassland birds in North America (North American Bird Conservation Initiative 2021). The wetlands associated with the Heart River and Edward Arthur Patterson Lake and open water features, including Edward Arthur Patterson Lake, that occur within the Development Area or 1-mile buffer are water sources which likely receive use by upland nesting waterfowl and broods.

The Development Area and 1-mile buffer do not contain negative barriers, such as large bodies of water, mountain ridges that offer energy-efficient flight via updrafts, or prominent north–south topography, which are features that would funnel migrant raptors. The Development Area and 1-mile buffer are within a known avian species-specific migration corridor, the whooping crane migration corridor, and the potential for migrating whooping cranes to stop over within the Development Area or 1-mile buffer does exist (Pearse, Rabbe, Bidwell et al. 2018; Pearse, Rabbe, Juliusson et al. 2018).

Bat migratory routes and stopover areas are poorly known (Baerwald and Barclay 2011; Baerwald et al. 2009; Dyke et al. 2015; Fleming and Eby 2003; Froidevaux et al. 2014). Emerging guidelines for pre-construction surveys have focused on identifying important wildlife habitat for bats such as hibernacula and maternity colonies and potential movement corridors between these important sites (Arnett and Baerwald 2013; Bennett and Hale 2018; Hein et al. 2013).

3.4.9 Plant Communities of Concern

The USFWS IPaC report does not list any federally protected plants as having the potential to occur within the Development Area or 1-mile buffer. The only federally listed plant species that occurs in North Dakota is the western prairie fringed orchid (*Platanthera praeclara*; federally threatened); however, the species is not known to occur in Stark County (NRCS 2021b). The Development Area and 1-mile buffer is either outside the known geographic or elevational range of federally listed plant species or it does not contain vegetation or landscape features known to support these species, or both.

The North Dakota NHI did not identify any significant ecological communities within an approximate one-mile radius of the Development Area (North Dakota NHI 2021). One significant ecological community, Needle-and-thread Mixed Grass Prairie (*Stipa comata* – *Bouteloua gracilis*/*Carex filifolia* prairie) was noted west, and outside, of the 1-mile buffer. However, this record dates to 1935 and the proposed project would not impact this community or any other known sensitive ecological communities.

Much of the native grasslands once abundant in North Dakota have disappeared or become heavily altered since European settlement in the late 1800s. As such, native grassland has a high conservation value due to its importance to species that rely on such habitat (Dyke et al. 2015). Native grasslands are unbroken: they have never been tilled or broken or may have been tilled in the late nineteenth or early twentieth century but without plows cutting deeply enough to destroy the soil profile and/or change the topography and grassland potential of the landscape.

During the site reconnaissance visit, SWCA did not identify any areas within the Development Area that have native grassland species.

3.4.10 Winter Ranges

The WEG (USFWS 2012) suggests evaluating the importance of winter ranges with respect to big game species. The Development Area and 1-mile buffer are outside of the established range for elk (*Cervus canadensis*), bighorn sheep (*Ovis canadensis*), and moose (*Alces alces*) in North Dakota. However, the Development Area and 1-mile buffer are within the established range for white-tailed deer (*Odocoileus virginianus*), pronghorn (*Antilocapra americana*), and mule deer (*Odocoileus hemionus*). None of these species were observed within the Development Area or 1-mile buffer by SWCA during site reconnaissance. White-tailed deer use a variety of habitats including riparian areas, forests, grasslands, or agricultural land, habitat which can be found within the Development Area and 1-mile buffer. White-tailed deer breed in late fall (November) and birth young from late May through late June (NDGFD 2019b). White-tailed deer may use agricultural land within the Development Area for foraging. Pronghorn primary range is in the extreme southwestern part of the state, with diminishing numbers north and east. Pronghorn are a landscape scale species that require large blocks of open continuous habitat. Sagebrush plains and shortgrass prairie associated with open terrain are common habitats. Pronghorn breeding peaks in mid-September and birth young late May to June (NDGFD 2019c). Mule deer are primarily found in the badlands adjacent to the Little Missouri River. Mule deer established range extends to the north and east to the breaks along the Missouri River. Their habitat includes sagebrush plains and shortgrass prairie associated with buttes and rough badlands terrain. Mule deer breeding peaks in mid-November and birth young from late May to June (NDGFD 2019d). Wetlands and open water features

described in Section 3.3 likely support migrating and wintering waterfowl or shorebirds, though the large size of the wetlands and pond complexes located east of the 1-mile buffer may attract more migrating individuals than those within the Development Area or 1-mile buffer.

3.5 Special-Status Lands and Lands of Biological Significance

There are no critical habitats within the Development Area, or within five miles of the Development Area. The closest critical habitat is for the piping plover (*Charadrius melodus*) approximately 53 miles northeast of the Development Area (USFWS 2020a).

There are no IBAs (Audubon 2021), WHSRN sites (WHSRN 2021), Wetlands of International Importance (Ramsar sites) (Ramsar 2021), Wilderness Areas (Wilderness Connect 2021), or Wild and Scenic Rivers (National Wild and Scenic Rivers System 2021), National Wildlife Refuges (USFWS 2021e), or state parks (North Dakota Parks and Recreation Department 2019) within the Development Area, or within five miles of the Development Area.

No other special designation areas occur within the Development Area, though lands associated with the Edward Arthur Patterson Lake Recreation Area, which is managed by the Bureau of Reclamation, occur adjacent to, though outside of, the Development Area. Additionally, Conservation Reserve Program easements occur within 5 miles of the Development Area.

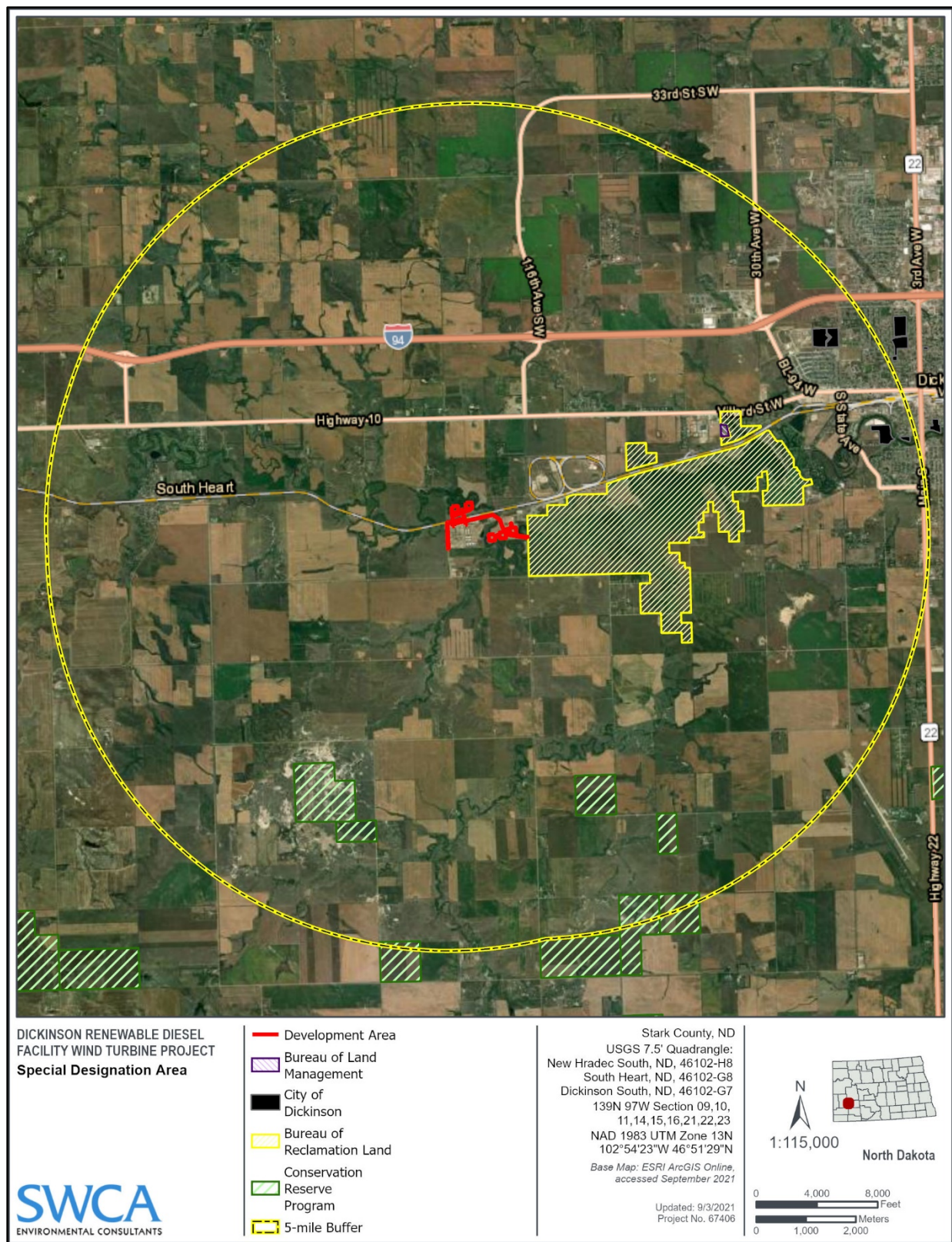


Figure 6. Special designation areas within 5 miles of Dickinson Renewable Diesel Facility Wind Turbine Project Development Area and 5-mile buffer, Stark County, North Dakota.

4 SUMMARY

This report evaluates all questions suggested for WEG Tiers 1 and 2, and ECPG Stage 1. The following is a summary of findings.

- Aquatic resources within the Development Area include freshwater emergent wetlands, and riverine habitat, although these habitats are limited. Aquatic resources within the 1-mile buffer include freshwater emergent wetlands, freshwater ponds, lakes, riverine, and freshwater forested/shrub wetlands.
- Two federally listed species, whooping crane and northern long-eared bat, may occur within the Development Area and 1-mile buffer. Based on the species' habitat and range requirements, anticipated use of the Development Area or 1-mile buffer by these species is expected to be occasional/rare.
- No bald eagle nests are known within two miles of the Development Area. However, bald eagles may occur in the Development Area or 1-mile buffer year-round.
- No golden eagle nests are known within two miles of the Development Area. However, golden eagles may occur within the Development Area or 1-mile buffer during any season or during spring and fall migration.
- Forty-eight (48) species designated as SCP Levels I, II, or III (including the two federally listed species, and bald and golden eagles) may occur within the Development Area or 1-mile buffer.
- Twenty (20) BCC species for BCR 17 may occur within the Development Area or 1-mile buffer.
- There are no critical habitats, IBAs, WHSRN sites, Wetlands of International Importance, Wilderness Area, Wildlife and Scenic Rivers, NWRs, or state parks within the Development Area or 1-mile buffer.
- No special designation areas occur within the Development Area, though special designation areas managed by Bureau of Reclamation (associated with the Edward Arthur Patterson Lake Recreation Area), and Conservation Reserve Program easements occur within a 5-mile buffer of the Development Area.
- There are no negative barriers, mountain ridges, or prominent north–south topography that would funnel migrant raptors within the Development Area or 1-mile buffer. There are no WHSRN staging or stopover areas within the Development Area or 1-mile buffer; however, the wetlands and open water features wetlands associated with the Heart River and Edward Arthur Patterson Lake within the Development Area and 1-mile buffer likely support migrating waterfowl and shorebird species.
- The Development Area and 1-mile buffer are within the range of one lekking species, the sharp-tailed grouse. Based on the species' range and habitat requirements, sharp-tailed grouse individuals and leks have potential to occur in the Development Area and 1-mile buffer but are not expected to nest within the Development Area.
- Based on information obtained during the Tier 1 Preliminary Site Evaluation and Tier 2 Site Characterization Study, overall risk to wildlife, including northern long-eared bat and whooping crane, is considered relatively low.

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APPENDIX A

**Species and Critical Habitats List for the Development Area
and 1-mile Buffer,
USFWS Information for Planning and Consultation System**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Stark County, North Dakota



Local office

North Dakota Ecological Services Field Office

☎ (701) 250-4481

📠 (701) 355-8513

3425 Miriam Avenue

Bismarck, ND 58501-7926

http://www.fws.gov/northdakotafieldoffice/endspecies/endangered_species.htm

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME

STATUS

Northern Long-eared Bat *Myotis septentrionalis*

Threatened

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/9045>

Birds

NAME

STATUS

Whooping Crane *Grus americana*

Endangered

There is **final** critical habitat for this species. The location of the critical habitat is not available.<https://ecos.fws.gov/ecp/species/758>

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ

[below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
------	--

Bald Eagle *Haliaeetus leucocephalus*

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1626>

Breeds Dec 1 to Aug 31

Golden Eagle *Aquila chrysaetos*

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/1680>

Breeds Jan 1 to Aug 31

Lesser Yellowlegs *Tringa flavipes*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9679>

Breeds elsewhere

Long-eared Owl *asio otus*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/3631>

Breeds Mar 1 to Jul 15

Marbled Godwit *Limosa fedoa*

Breeds May 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9481>

Red-headed Woodpecker *Melanerpes erythrocephalus*

Breeds May 10 to Sep 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Willet *Tringa semipalmata*

Breeds Apr 20 to Aug 5

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

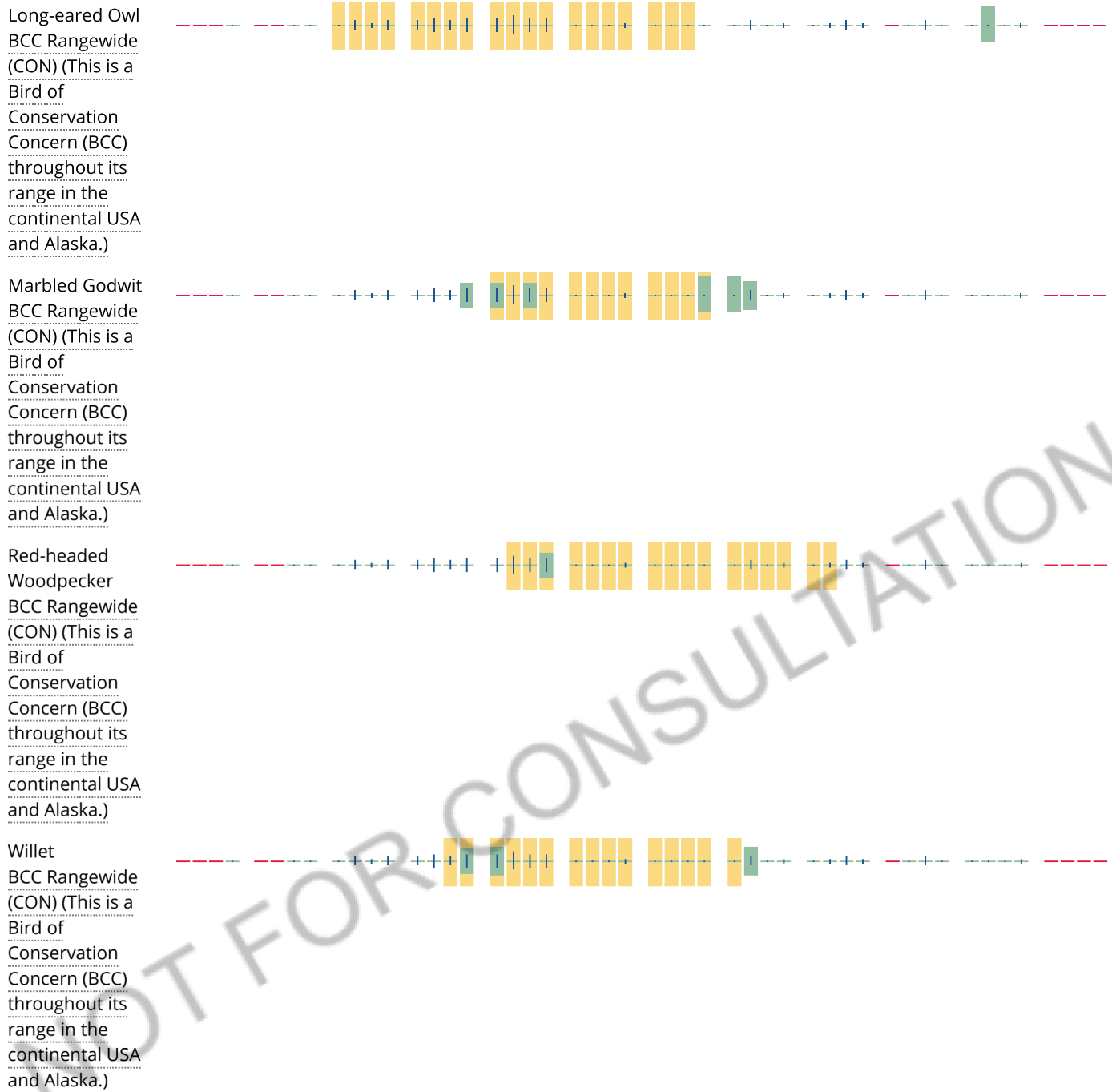
No Data (-)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

[PEM1Ch](#)

[PEM1C](#)

[PEM1A](#)

[PEM1Ah](#)

FRESHWATER FORESTED/SHRUB WETLAND

[PFOAh](#)

[PFOA](#)

FRESHWATER POND

[PABFh](#)

[PUSC](#)

[PUBFx](#)

[PABKx](#)

LAKE

[L2ABFh](#)

RIVERINE

[R2UBF](#)

[R4SBC](#)

[R5UBH](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION

APPENDIX B

North Dakota Natural Heritage Program Records Search for the Development Area

July 27, 2021

Jereme Kent
One Energy, LLC
12385 Township Road 215
Findlay, OH

Re: Marathon's Dickinson Renewables – WPC Dickinson Wind Farm

Dear Mr. Kent,

The North Dakota Parks and Recreation Department (NDPRD) has reviewed the above-referenced wind farm Project in Stark County, North Dakota. NDPRD's scope of authority and expertise covers properties that NDPRD owns, leases, or manages; properties protected under Section 6(f) of the Land and Water Conservation Fund (LWCF); rare plants and ecological communities established through the Natural Heritage Program.

The project does not appear to affect properties that NDPRD owns, leases, or manages.

The project does not appear to affect any properties protected under Section 6(f) of the LWCF.

The North Dakota Natural Heritage biological conservation database has reviewed the project to determine if any current or historical plant or animal species of concern or other significant ecological communities are known to occur within an approximate one-mile radius of the project area. Based on this review, we have no known rare species or significant ecological communities documented within or immediately adjacent to the project site. Because the Natural Heritage information is not based on a comprehensive inventory, there may be species of concern or otherwise significant ecological communities in the area that are not represented in the database. The absence of data may indicate that the project area has not been surveyed rather than confirm that it lacks natural heritage resources.

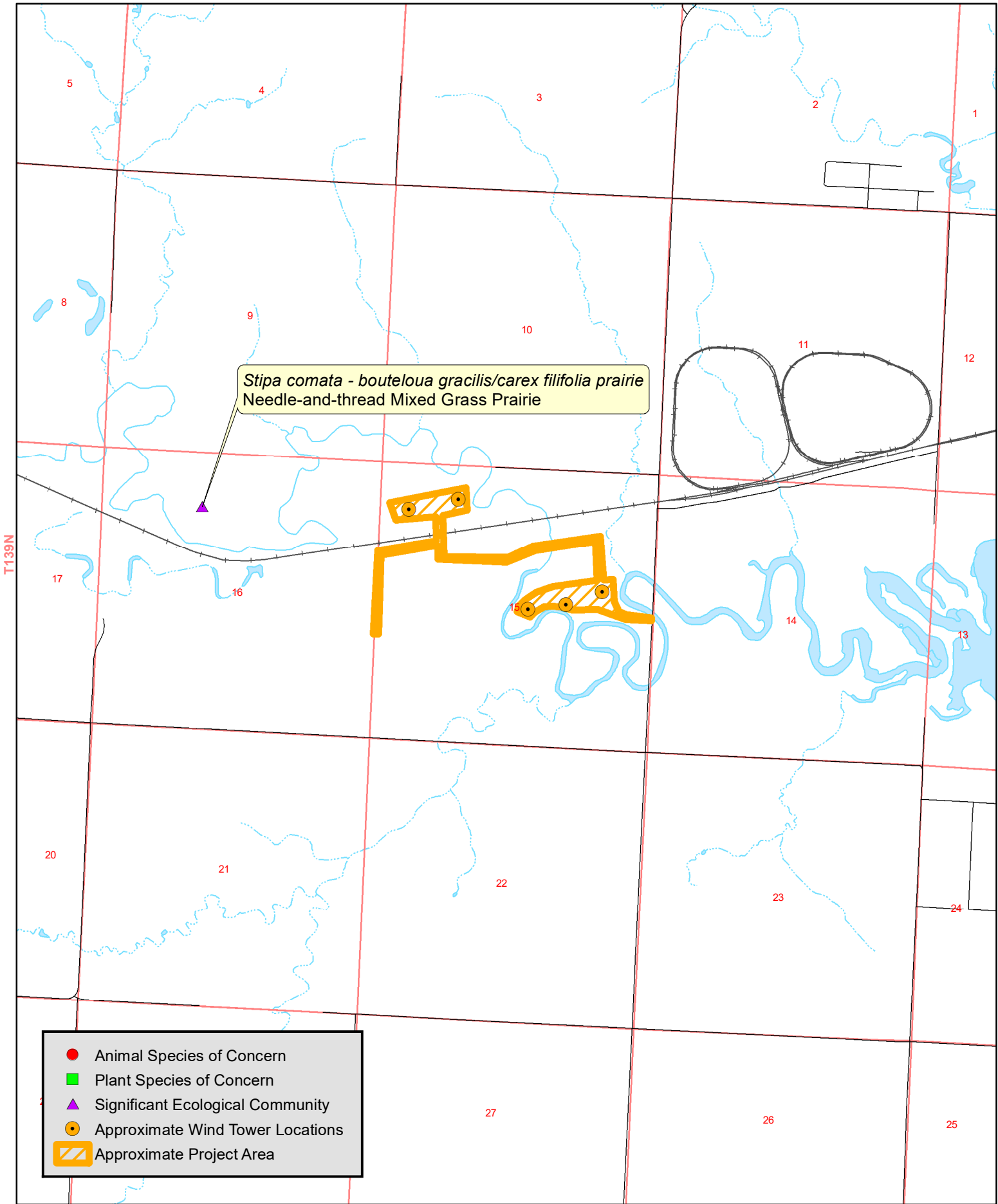
We appreciate your commitment to rare plant, animal, and ecological community conservation, management, and inter-agency cooperation to date. For additional information, please get in touch with Natural Resources Coordinator Kathy Duttenhefner at 701-328-5370, 701-220-3377 (cell), or kgduttenhefner@nd.gov.

Thank you for the opportunity to comment on the proposed project.



Kathy Duttenhefner
Coordinator/Biologist II, Natural Resources

North Dakota Parks and Recreation Department North Dakota Natural Heritage Inventory



R97W

North Dakota Natural Heritage Inventory
Rare Animal and Plant Species and Significant Ecological Communities

State Scientific Name	State Common Name	State Rank	Global Rank	Federal Status	Township Range Section	County	Last Observation	Estimated Representation Accuracy	Precision
Stipa comata - bouteloua gracilis/carex filifolia prairie	Needle-and-thread Mixed Grass Prairie	S2	GNR		139N097W - 16; 140N098W - 34; 139N097W - 36; 139N097W - 27; 139N097W - 09; 139N098W - 36; 139N097W - 07; 140N097W - 36; 140N097W - 27; 139N097W - 29; 139N096W - 08; 138N097W - 10; 140N097W - 28; 140N097W - 19; 139N096W - 18; 140N097W - 29; 139N096W - 17	Stark	1935-08-03		G

APPENDIX C

Special-Status Species Reviewed for Their Potential to Occur in the Development Area and 1-mile Buffer

Table C-1. Species of Concern and Their Potential to Occur in the Development Area

Common Name (Scientific Name)	Status*		Habitat Requirements	Potential for Occurrence in Development Area and 1-mile buffer
	Federal	State		
Amphibians and Reptiles				
Canadian toad (<i>Anaxyrus hemiophrys</i>)	–	SCP I	Margins of wetlands, ponds, and lakes.	Unlikely to occur. The Development Area and 1-mile buffer are not within North Dakota Game and Fish Department (NDGFD) primary range. No secondary range is mapped by NDGFD.
False map turtle (<i>Graptemys pseudogeographica</i>)	–	SCP III	Large rivers or streams.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary range. No secondary range is mapped by NDGFD. In North Dakota, the species is known only from the Missouri River system below Garrison Dam.
Northern prairie skink (<i>Plestiodon septentrionalis</i>)	–	SCP III	Grassy hillsides with soft soil and small, flat rocks.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary or secondary range. The largest population in North Dakota likely occurs in grasslands in the southeastern-most portion of the state.
Plains hog-nosed snake (<i>Heterodon nasicus</i>)	–	SCP I	Sandy or gravelly areas of grasslands.	May occur during spring, summer, or fall. The Development Area and 1-mile buffer are within NDGFD primary range and contain appropriate habitat associations.
Plains spadefoot (<i>Spea bombifrons</i>)	–	SCP I	Open grasslands with sandy soils.	May occur during spring, summer, or fall. The Development Area and 1-mile buffer are within NDGFD primary range and contain appropriate habitat associations.
Sagebrush lizard (<i>Sceloporus graciosus</i>)	–	SCP III	Rocky sagebrush habitats of western North Dakota.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary range. No secondary range is mapped by NDGFD.
Short-horned lizard (<i>Phrynosoma hernandesi</i>)	–	SCP II	Arid landscapes, shortgrass prairie, and rough terrain of the badlands in western North Dakota.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary or secondary range.
Smooth green snake (<i>Opheodrys vernalis</i>)	–	SCP I	Grassland areas including native prairie or moist meadows.	May occur during spring, summer, or fall. The Development Area and 1-mile buffer are within NDGFD primary range and contain appropriate habitat associations.

Common Name (Scientific Name)	Status*		Habitat Requirements	Potential for Occurrence in Development Area and 1-mile buffer
	Federal	State		
Smooth softshell (<i>Apalone mutica</i>)	–	SCP III	Permanent streams or creeks with sandy or muddy substrate and sandy beaches.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary range. No secondary range is mapped by NDGFD. In North Dakota, known only from the extreme lower portion of the Missouri River system.
Spiny softshell (<i>Apalone spinifera</i>)	–	SCP III	Large permanent streams with sandy or muddy substrates.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary range. No secondary range is mapped by NDGFD. In North Dakota, known only from the Missouri River system below Garrison Dam and the headwaters of Lake Oahe.
Snapping turtle (<i>Chelydra serpentina</i>)	–	SCP II	Slow-moving rivers and streams high in sediment or large, permanent waterbodies with muddy bottoms.	May occur during spring, summer, or fall. The Development Area and 1-mile buffer are within NDGFD primary range and contain appropriate habitat associations.
Birds				
American dipper	BCC	-	Fast-moving rock streams.	Unlikely to occur. The Development Area and 1-mile buffer are not within species range and does not contain the preferred habitat.
American avocet (<i>Recurvirostra americana</i>)	–	SCP II	Shallow water of ephemeral, temporary, seasonal, permanent, or semi-permanent wetlands or lakes.	May occur during the breeding season. The Development Area and 1-mile buffer are within NDGFD secondary range and contain appropriate habitat associations. Documented within 10 miles of the Development Area.
American bittern (<i>Botaurus lentiginosus</i>)	–	SCP I	Wetlands with tall emergent vegetation and/or tall grasslands.	May occur during the breeding season. The Development Area and 1-mile buffer are within NDGFD secondary range and contains appropriate habitat associations. Documented within 10 miles of the Development Area.
American kestrel (<i>Falco sparverius</i>)	–	SCP II	Open or semi-open landscapes including agricultural fields, pastures, and grasslands.	May occur during the breeding season. The Development Area and 1-mile buffer are within NDGFD primary range and contain appropriate habitat associations. Documented within 10 miles of the Development Area.
American white pelican (<i>Pelecanus erythrorhynchos</i>)	–	SCP II	Large lakes and semi-permanent wetlands.	May occur during the breeding season or migration. The Development Area and 1-mile buffer are within NDGFD secondary range and contain appropriate habitat associations. Documented within 10 miles of Development Area.

Tier 1 Preliminary Site Evaluation and Tier 2 Site Characterization Report, Dickinson Renewable Diesel Facility Wind Turbine Project
Stark County, North Dakota

Common Name (Scientific Name)	Status*		Habitat Requirements	Potential for Occurrence in Development Area and 1-mile buffer
	Federal	State		
Baird's sparrow (<i>Ammodramus bairdii</i>)	BCC	SCP I	Large tracts of native mixed-grass prairie or lightly grazed pastures.	May occur during the breeding season. The Development Area and 1-mile buffer are within NDGFD primary range and contain appropriate habitat associations.
Bald eagle (<i>Haliaeetus leucocephalus</i>)	BGEPA	SCP II	Large rivers, lakes, or wetlands with nearby mature stands of trees for nesting. Found year-round in North Dakota.	May occur year-round. The Development Area and 1-mile buffer are within NDGFD secondary range and contain trees and open water features that may be used by breeding bald eagles. Documented within 10 miles of the Development Area.
Black tern (<i>Chlidonias niger</i>)	BCC	SCP I	Shallow wetlands, semi-permanent wetlands, and lake margins that are surrounded by grassland.	May occur during the breeding season. The Development Area and 1-mile buffer are within NDGFD secondary range and contain appropriate habitat associations. Documented within 10 miles of the Development Area.
Black-billed cuckoo (<i>Coccyzus erythrophthalmus</i>)	BCC	SCP I	Thickets or edges of woodlands, riparian areas, and shelterbelts of farmsteads.	May occur during the breeding season. The Development Area and 1-mile buffer are within NDGFD primary range and contain appropriate habitat associations.
Bobolink (<i>Dolichonyx oryzivorus</i>)	BCC	SCP II	Native or tame grasslands with dense vegetation.	May occur during the breeding season. The Development Area and 1-mile buffer are within NDGFD primary range and contain appropriate habitat associations. Documented within 10 miles of the Development Area.
Brewer's sparrow (<i>Spizella breweri</i>)	–	SCP III	Big sagebrush within shortgrass prairie landscapes of western North Dakota.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary or secondary range and do not contain the preferred habitat for this species.
Burrowing owl (<i>Athene cunicularia</i>)	BCC	SCP II	Open grasslands with short vegetation including grazed pastures, native prairie, hayfields, and fallow agricultural fields. Black-tailed prairie dog (<i>Cynomys ludovicianus</i>) towns are key areas for this species	May occur during the breeding season. The Development Area and 1-mile buffer are within NDGFD secondary range.
California gull (<i>Larus californicus</i>)	BCC	–	Can be found in pastures, scrublands, parking lots, beaches, or lakes.	May occur during the breeding season. The Development Area and 1-mile buffer are within species range and contain appropriate habitat associations. Documented within 10 miles of the Development Area.

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Common Name (Scientific Name)	Status*		Habitat Requirements	Potential for Occurrence in Development Area and 1-mile buffer
	Federal	State		
Canvasback (<i>Aythya valisineria</i>)	–	SCP II	A variety of wetland types, lakes, and marshes with emergent vegetation.	May occur during the breeding season. The Development Area and 1-mile buffer are within NDGFD secondary range and contain appropriate habitat associations. Documented within 10 miles of the Development Area.
Chestnut-collared longspur (<i>Calcarius ornatus</i>)	BCC	SCP I	Shortgrass or mixed-grass prairie.	May occur during the breeding season. The Development Area and 1-mile buffer are within NDGFD primary range and contain appropriate habitat associations.
Dickcissel (<i>Spiza americana</i>)	–	SCP II	Grassland habitats with dense vegetation including retired agricultural fields, Conservation Reserve Program (CRP) land, hedgerows, or grazed pastures.	May occur during the breeding season. The Development Area and 1-mile buffer are within NDGFD secondary range and contain appropriate habitat associations.
Ferruginous hawk (<i>Buteo regalis</i>)	BCC	SCP I	Open landscapes including native prairie.	May occur during the breeding season. The Development Area and 1-mile buffer are within NDGFD secondary range and contain appropriate habitat associations. Documented within 10 miles of the Development Area.
Franklin's gull (<i>Leucophaeus pipixcan</i>)	BCC	SCP I	Large open wetlands with some emergent vegetation and agricultural fields.	May occur during the breeding season. The Development Area and 1-mile buffer are not within NDGFD primary or secondary range and do not contain the preferred habitat for this species. Documented within 10 miles of Development Area.
Golden eagle (<i>Aquila chrysaetos</i>)	BGEPA	SCP II	Open landscapes of grasslands and shrublands, typically in western North Dakota.	May occur during migration or year-round. The Development Area and 1-mile buffer are within NDGFD secondary range and contain appropriate habitat associations. Documented within 10 miles of the Development Area.
Grasshopper sparrow (<i>Ammodramus savannarum</i>)	BCC	SCP I	Grasslands such as mixed-grass prairie or hayfields. Prefers vegetation of intermediate height, moderate litter depth, and sparse woody vegetation.	May occur during the breeding season. The Development Area and 1-mile buffer are within NDGFD primary range and contain appropriate habitat associations. Documented within 10 miles of the Development Area.
Greater prairie-chicken (<i>Tympanuchus cupido</i>)	–	SCP II	Undisturbed, native tallgrass prairie with nearby cropland.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary range. The two primary breeding populations occur in far eastern North Dakota.

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Common Name (Scientific Name)	Status*		Habitat Requirements	Potential for Occurrence in Development Area and 1-mile buffer
	Federal	State		
Greater sage-grouse (<i>Centrocercus urophasianus</i>)	–	SCP I	Sagebrush habitats in the extreme southwest portion of the state.	Unlikely to occur. The Development Area and 1-mile buffer are outside of NDGFD primary range and do not contain the preferred habitat for this species.
Horned grebe (<i>Podiceps auritus</i>)	–	SCP I	Ponds and wetlands with emergent vegetation and large areas of open water.	May occur during the breeding season. The Development Area and 1-mile buffer are within NDGFD secondary range and contain appropriate habitat associations. Documented within 10 miles of the Development Area.
Lark bunting (<i>Calamospiza melanocorys</i>)	BCC	SCP I	Mixed-grass prairie with shrubs or fallow cropland.	May occur during the breeding season. The Development Area and 1-mile buffer are within NDGFD primary range and contain appropriate habitat associations. Documented within 10 miles of the Development Area.
Le Conte's sparrow (<i>Ammodramus leconteii</i>)	–	SCP II	A variety of open habitats including marshy or wet meadows, native and tame grasslands, CRP land, and idle pastures.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary or secondary range.
Least tern (Interior) (<i>Sterna antillarum athalassos</i>)	–	SCP II	Sparsely vegetated sandbars or salt flats along the Missouri River system.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary range. In North Dakota, the species only occurs in the Yellowstone River, Missouri River, Lake Sakakawea, and Lake Oahe, none of which occur in the Development Area or 1-mile buffer.
Lesser scaup (<i>Aythya affinis</i>)	–	SCP II	A variety of wetland types, lakes, and marshes with emergent vegetation.	May occur during the breeding season. The Development Area and 1-mile buffer are within NDGFD secondary range and contain appropriate habitat associations. Documented within 10 miles of the Development Area.
Lesser yellowlegs (<i>Tringa flavipes</i>)	BCC	–	Mudflats and shallow pools and marshes.	May occur during migration. The Development Area and 1-mile buffer are within migration range for this species and the Development Area and 1-mile buffer contain appropriate migration habitat. The species does not breed in North Dakota. Documented within 10 miles of the Development Area.
Lewis's woodpecker (<i>Melanerpes lewis</i>)	BCC	–	Open woodlands, sometimes close to human settlements.	Unlikely to occur. The Development Area and 1-mile buffer are not within species known range.

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Stark County, North Dakota

Common Name (Scientific Name)	Status*		Habitat Requirements	Potential for Occurrence in Development Area and 1-mile buffer
	Federal	State		
Loggerhead shrike (<i>Lanius ludovicianus</i>)	–	SCP II	Open habitats with short grass and scattered shrubs or low trees.	May occur during the breeding season. The Development Area and 1-mile buffer are within NDGFD primary range and contain appropriate habitat associations. Documented within 10 miles of the Development Area.
Long-eared owl (<i>Asio otus</i>)	BCC	–	Mix of dense cover for roosting, such as brushy thickets or conifer groves.	May occur during the breeding season. The Development Area and 1-mile buffer are within species known range and contain appropriate habitat associations. Documented within 10 miles of Development Area.
Long-billed curlew (<i>Numenius americanus</i>)	–	SCP I	Expansive, open grasslands with short vegetation such as short-grass or grazed mixed-grass prairie.	May occur during the breeding season. The Development Area and 1-mile buffer are within NDGFD secondary range and contain appropriate habitat associations. Documented within 10 miles of Development Area.
Marbled godwit (<i>Limosa fedoa</i>)	BCC	SCP I	Large expanses of short, sparse, or moderately vegetated uplands with nearby wetlands for nesting.	May occur during the breeding season. The Development Area and 1-mile buffer are within NDGFD secondary range and contain appropriate habitat associations. Documented within 10 miles of the Development Area.
McCown's longspur/Thick-billed longspur (<i>Calcarius mccownii</i>)	BCC	SCP III	Shortgrass prairie of western North Dakota.	Unlikely to occur. The Development Area and 1-mile buffer are not within the NDGFD possible range for this species.
Mountain plover (<i>Charadrius montanus</i>)	BCC	–	Nests in shortgrass prairie, especially in areas where blue grama (<i>Bouteloua gracilis</i>), buffalo grass (<i>Bouteloua dactyloides</i>), and western wheatgrass (<i>Pascopyrum smithii</i>) are dominant.	Unlikely to occur. The Development Area and 1-mile buffer are not within the known range for this species.
Nelson's sparrow (<i>Ammodramus nelsoni</i>)	–	SCP I	Shallow marshes or wet meadows on the edges of wetlands, damp areas with damp grass.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary or secondary range. However, the species has been documented within 10 miles of Development Area.
Northern harrier (<i>Circus cyaneus</i>)	BCC	SCP II	Grasslands and wetlands with dense vegetation for foraging and nesting. Forages over native or tame vegetation in wet or dry grasslands, wetlands, grazed pasture, or croplands.	May occur during the breeding season. The Development Area and 1-mile buffer are within NDGFD primary range and contain appropriate habitat associations. Documented within 10 miles of Development Area.

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Stark County, North Dakota

Common Name (Scientific Name)	Status*		Habitat Requirements	Potential for Occurrence in Development Area and 1-mile buffer
	Federal	State		
Northern pintail (<i>Anas acuta</i>)	–	SCP II	Wetland complexes with open water and nearby upland prairie.	May occur during the breeding season. The Development Area and 1-mile buffer are within NDGFD secondary range and contain appropriate habitat associations. Documented within 10 miles of the Development Area.
Peregrine falcon (<i>Falco peregrinus</i>)	–	SCP III	Native prairie, rocky cliffs near rivers, and the badlands area of western North Dakota.	Unlikely to occur. The Development Area and 1-mile buffer are within NDGFD possible range, though the species is considered rare in the state. The most recent naturally occurring nesting record in North Dakota is from 1954 on Bullion Butte in Billings County. Documented within 10 miles of the Development Area.
Pinyon Jay	BCC	–	Prefers open forests with pinyon pine and juniper.	Unlikely to occur. The Development Area and 1-mile buffer are not within the species known range.
Piping plover (<i>Charadrius melodus</i>)	T	SCP II	Sparsely vegetated shorelines of large rivers and alkali lakes. Sandbars of the Missouri River are a key area for the species in North Dakota.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary range; however, the Development Area is within NDGFD possible range. The Development Area does not contain the preferred habitat for the piping plover.
Prairie falcon (<i>Falco mexicanus</i>)	BCC	SCP II	Shortgrass prairie and shrub-steppe habitats of western North Dakota. Nests on cliffs, buttes, rock outcrops and ridges.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary or secondary range. The Development Area is within NDGFD possible range; however, it does not contain the preferred habitat for the prairie falcon. Documented within 10 miles of the Development Area.
Red-headed woodpecker (<i>Melanerpes erythrocephalus</i>)	BCC	SCP I	Stands of mature deciduous trees in shelterbelts, river bottoms, or near towns.	May occur during the breeding season. The Development Area and 1-mile buffer are within NDGFD secondary range and contain appropriate habitat associations. Documented within 10 miles of the Development Area.
Red knot (Rufa) (<i>Calidris canutus rufa</i>)	T	SCP III	Alkaline and freshwater lakes during migration. The species has been observed in the Missouri River system.	Unlikely to occur. The Development Area and 1-mile buffer are within NDGFD possible range, though the species is considered rare in the state and no consistent stopover sites are known within the state.
Sharp-tailed grouse (<i>Tympanuchus phasianellus</i>)	–	SCP II	Mixed-grass prairie and CRP grasslands interspersed with shrubs and small trees.	May occur year-round. The Development Area and 1-mile buffer are within NDGFD primary range and contain appropriate habitat associations.

Tier 1 Preliminary Site Evaluation and Tier 2 Site Characterization Report, Dickinson Renewable Diesel Facility Wind Turbine Project
Stark County, North Dakota

Common Name (Scientific Name)	Status*		Habitat Requirements	Potential for Occurrence in Development Area and 1-mile buffer
	Federal	State		
Short-eared owl (<i>Asio flammeus</i>)	BCC	SCP II	Expansive, open grasslands, wetlands, native prairie, hay land, and retired cropland.	May occur year-round. The Development Area and 1-mile buffer are within NDGFD primary range and contain appropriate habitat associations.
Sprague's pipit (<i>Anthus spragueii</i>)	BCC	SCP I	Large tracts of mixed-grass prairie with vegetation of intermediate height and sparse to intermediate density.	May occur during the breeding season. The Development Area and 1-mile buffer are within NDGFD primary range and may contain suitable habitat association for this species.
Swainson's hawk (<i>Buteo swainsoni</i>)	–	SCP I	Open landscapes including agricultural land or grasslands with some trees and shrubs.	May occur during the breeding season. The Development Area and 1-mile buffer are within NDGFD primary range and contain appropriate habitat associations. Documented within 10 miles of the Development Area.
Upland sandpiper (<i>Bartramia longicauda</i>)	–	SCP II	Native and tame grassland, wetlands, or agricultural fields.	May occur during the breeding season. The Development Area and 1-mile buffer are within NDGFD secondary range and contain appropriate habitat associations. Documented within 10 miles of the Development Area.
Western meadowlark (<i>Sturnella neglecta</i>)	–	SCP II	Native or tame grasslands, roadsides, or hayfields.	May occur during the breeding season. The Development Area and 1-mile buffer are within NDGFD primary range and contain appropriate habitat associations. Documented within 10 miles of Development Area.
Whooping crane (<i>Grus americana</i>)	E	SCP III	Does not breed in North Dakota. During migration, uses wetlands and agricultural fields for foraging and roosting.	May occur during migration. The Development Area and 1-mile buffer are within NDGFD primary range and is within the 95% whooping crane migration corridor, indicating that it is relatively more likely for the species to occur in the Development Area or within the 1-mile buffer than in areas outside the 95% whooping crane migration corridor.
Willet (<i>Tringa semipalmatus</i>)	BCC	SCP II	Large tracts of short grasslands, especially native grassland. Also uses idle grassland and some grazed pasture.	May occur during the breeding season. The Development Area and 1-mile buffer are within NDGFD secondary range and the Development Area or 1-mile buffer may contain suitable grassland habitat for the species. Documented within 10 miles of the Development Area.
Wilson's phalarope (<i>Phalaropus tricolor</i>)	–	SCP I	Wetlands or the edges of wetlands that contain emergent vegetation and open shoreline for foraging. Nests in wet meadows or upland grasslands.	May occur during the breeding season. The Development Area and 1-mile buffer are within NDGFD secondary range and contain appropriate habitat associations. Documented within 10 miles of the Development Area.

Common Name (Scientific Name)	Status*		Habitat Requirements	Potential for Occurrence in Development Area and 1-mile buffer
	Federal	State		
Western Grebe (<i>Aechmophorus occidentalis</i>)	BCC	–	Large freshwater lakes and marshes with emergent vegetation along the edges.	May occur during the breeding season. The Development Area and 1-mile buffer are within species range and may contain suitable habitat for the species.
Yellow rail (<i>Coturnicops noveboracensis</i>)	–	SCP I	Wet meadows with moist soils, emergent vegetation, and shallow water.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary or secondary range.
Fish				
Blacknose shiner (<i>Notropis heterolepis</i>)	–	SCP III	Clear, vegetated pools of streams. Currently known from the Sheyenne River in Ransom County. Historically occurred in the Forest and Maple Rivers.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary, possible, or historical range of the species.
Blue sucker (<i>Cycleptus elongatus</i>)	–	SCP I	Fast currents of large turbid rivers. Occurs in the Missouri River system.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary or secondary range. The species only occurs in the Missouri River system. Key areas include the Missouri River's free flowing stretches above Lake Sakakawea and Lake Oahe and confluence areas of larger tributaries such as the Knife and Cannonball rivers.
Burbot (<i>Lota lota</i>)	–	SCP II	Large river systems and reservoirs.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary or secondary range. The species only occurs in the Missouri and Red River systems.
Carmine shiner (<i>Notropis percbromis</i>)	–	SCP III	Clear, fast streams with gravel or sandy substrates.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary, secondary, or possible range.
Chestnut lamprey (<i>Ichthyomyzon castaneus</i>)	–	SCP III	Larger river systems and lakes.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary or secondary ranges. In North Dakota, known only from the Red, Goose, and Sheyenne Rivers.
Finescale dace (<i>Phoxinus neogaeus</i>)	–	SCP III	Cool, boggy lakes and ponds, or streams that are approximately 1.0–3.0 meters wide and up to 0.5 meter deep.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary range. No secondary range is mapped by NDGFD. In North Dakota, known only from the Tongue River in the northeastern portion of the state.

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Common Name (Scientific Name)	Status*		Habitat Requirements	Potential for Occurrence in Development Area and 1-mile buffer
	Federal	State		
Flathead chub (<i>Platygobio gracilis</i>)	–	SCP II	Slow turbid water with sand or gravel bottoms.	May occur year-round. The Development Area and 1-mile buffer are within NDGFD primary range and populations are known from the Heart River.
Hornyhead chub (<i>Nocomis biguttatus</i>)	–	SCP III	Pools and slow runs of clear, small rivers.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary or secondary range. In North Dakota, presently found in the Forest and Park Rivers. Historically occurred in the Sheyenne and Maple Rivers but has not been documented there recently.
Largescale stoneroller (<i>Campostoma oligolepis</i>)	–	SCP III	Pools and riffles of small, clear streams with gravel substrates.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary or possible range. In North Dakota, known only from the Forest River.
Logperch (<i>Percina caprodes</i>)	–	SCP III	Gravel-rocky areas of medium to large streams but can be found in most any habitat type.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary or secondary range.
Northern pearl dace (<i>Margariscus nachtriebi</i>)	–	SCP I	Cool and clear, shallow headwater streams with gravel or sand substrate.	Unlikely to occur. The Development Area and 1-mile buffer are not within current NDGFD primary or secondary range.
Northern redbelly dace (<i>Chrosomus eos</i>)	–	SCP II	Cold, clear headwater streams with slow moving water over silt bottoms. Vegetation is usually found nearby.	May occur year-round. The Development Area and 1-mile buffer are within NDGFD primary range. Populations are known from the Heart River.
Paddlefish (<i>Polyodon spathula</i>)	–	SCP II	Known from the Missouri and Yellowstone Rivers in western North Dakota. Prefers clam water of large rivers or areas of low flow behind sandbars.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary or secondary range.
Pallid sturgeon (<i>Scaphirhynchus albus</i>)	E	SCP II	Known from the Missouri and Yellowstone Rivers in western North Dakota.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary or historical range. No secondary range for this species is mapped by NDGFD.
Pugnose shiner (<i>Notropis anogenus</i>)	–	SCP III	Pools and small runs of clear streams. The last known occurrence of this species in North Dakota comes from the Forest River in 1964. May be extirpated from the state.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD historical range. No primary or secondary range for this species is mapped by NDGFD.

Common Name (Scientific Name)	Status*		Habitat Requirements	Potential for Occurrence in Development Area and 1-mile buffer
	Federal	State		
River darter (<i>Percina shumardi</i>)	–	SCP III	Rocky riffles of all size streams.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD historical range. No primary or secondary range for this species is mapped by NDGFD. In North Dakota, historically occurred in the Red and Sheyenne Rivers though the species is believed to be extirpated from the state.
Sicklefin chub (<i>Marcbryopsis meeki</i>)	–	SCP I	Found within the main channels of the upper Missouri and Yellowstone Rivers in turbid water.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary or historical range. No secondary range for this species is mapped by NDGFD.
Silver chub (<i>Marcbryopsis storeriana</i>)	–	SCP II	Sandy and silty substrates in pools or backwaters of small to large rivers.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary or historical range. No secondary range for this species is mapped by NDGFD.
Silver lamprey (<i>Ichthyomyzon unicuspis</i>)	–	SCP III	In North Dakota, known only from the Red River, though recent surveys did not detect the species in the Red River (Dyke et al. 2015).	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary range. No secondary range for this species is mapped by NDGFD.
Sturgeon chub (<i>Marcbryopsis gelida</i>)	–	SCP I	Found within the main channels of the upper Missouri and Yellowstone Rivers in turbid water.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary, secondary, or historical range.
Trout-perch (<i>Percopsis omiscomaycus</i>)	–	SCP II	Found in lakes but may be found in deeper pools of rivers and streams. Bottom substrate is normally sand.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary or secondary range.
Yellow bullhead (<i>Ameriurus natalis</i>)	–	SCP III	Found in pools and slack water of streams. Bottom substrate normally soft (mud, silt).	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary or possible range. No secondary range for this species is mapped by NDGFD.
Insects				
Dakota skipper (<i>Hesperia dacotae</i>)	T	SCP II	Native prairie dominated by bluestem grass (<i>Schizachyrium scoparium</i> ; <i>Andropogon gerardii</i>) and several wildflower species.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary. No secondary range for this species is mapped by NDGFD.
Monarch butterfly (<i>Danaus plexippus</i>)	–	SCP I	Occurs wherever a high number of nectar sources are present.	May occur during the summer. The Development Area and 1-mile buffer are within NDGFD primary range and contain appropriate habitat associations.

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	Federal	State		
Poweshiek skipperling (<i>Oarisma poweshiek</i>)	E	SCP II	High-quality native grasslands. Prefers wet to dry prairie with mesic hillsides near low, moist areas.	Unlikely to occur. The Development Area is not within NDGFD primary range. No secondary range for this species is mapped by NDGFD.
Regal fritillary (<i>Speyeria idalia</i>)	–	SCP I	Native prairie or wet meadow; frequently found in remnants of tallgrass prairie.	May occur during the summer. The Development Area and 1-mile buffer are within NDGFD primary range and may contain suitable habitat for the species.
Mammals				
American marten (<i>Martes americana</i>)	–	SCP II	Coniferous and mixed forests in the Turtle Mountains in extreme northern North Dakota.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary. No secondary range for this species is mapped by NDGFD. In North Dakota, this species is only known to occur in the Turtle Mountains region of Rolette and Bottineau Counties.
Arctic shrew (<i>Sorex arcticus</i>)	–	SCP III	Wet meadows and grass-sedge marshes. Known to occur in counties along the Canadian border.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary. No secondary range for this species is mapped by NDGFD.
Big brown bat (<i>Eptesicus fuscus</i>)	–	SCP I	The species does not have specific habitat requirements and can be found throughout the state if water and food sources are available.	May occur year-round, though hibernates during winter. The Development Area and 1-mile buffer are within NDGFD primary range and likely contains water and food sources that would support this species.
Black-footed ferret (<i>Mustela nigripes</i>)	E	SCP II	Requires presence of prairie dog (<i>Cynomys</i> sp.) towns. Believed to be extirpated from North Dakota but suitable habitat could be present in the Little Missouri National Grasslands of western North Dakota.	Unlikely to occur. The Development Area and 1-mile buffer are within NDGFD historical range for this species. No primary or secondary range for this species is mapped by NDGFD.
Black-tailed prairie dog (<i>Cynomys ludovicianus</i>)	–	SCP I	Prairie/grassland communities with short vegetation.	May occur year-round. The Development Area and 1-mile buffer are within NDGFD secondary range and the Development Area or 1-mile buffer contain appropriate habitat associations.
Eastern spotted skunk (<i>Spilogale putorius</i>)	–	SCP III	Wooded riparian corridors within prairie habitats. Will also use vegetated fence lines along agricultural fields.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD possible range. No primary or secondary range for this species is mapped by NDGFD. It is unclear whether the species has been extirpated from the state.

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	Federal	State		
Gray fox (<i>Urocyon cinereoargenteus</i>)	–	SCP III	Shrubby vegetation associated with forested riparian areas. Found in agricultural landscapes and woodlots.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD possible range. No primary or secondary range for this species is mapped by NDGFD. It is unclear whether the species has been extirpated from the state.
Hispid pocket mouse (<i>Chaetodipus hispidus</i>)	–	SCP III	Short and mixed-grass prairie west of the Missouri River.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary range. No secondary range for this species is mapped by NDGFD. The species is found primarily in the southern portion of the state, west of the Missouri River.
Little brown bat (<i>Myotis lucifugus</i>)	–	SCP I	Generally associated with buildings (where they roost) near sources of flying insects. The species hibernates in caves and mines. No hibernacula have been identified in the state.	May occur year-round, though hibernates during winter. The Development Area and 1-mile buffer are within NDGFD primary range and contain appropriate habitat associations.
Long-eared bat (<i>Myotis evotis</i>)	–	SCP III	Rocky outcrops and cliffs in the badlands of western North Dakota.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary or secondary range.
Long-legged bat (<i>Myotis volans</i>)	–	SCP III	Conifer stands in the badlands of western North Dakota, as well as along the Missouri River.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary or possible range.
Merriam's shrew (<i>Sorex merriami</i>)	–	SCP III	Grasslands and sage-steppe habitat of extreme western North Dakota.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD possible range. No primary or secondary range for this species is mapped by NDGFD.
Northern long-eared bat (<i>Myotis septentrionalis</i>)	T	SCP I	Wooded habitat, where it roosts under loose tree bark.	May occur during spring, summer, or fall. The Development Area and 1-mile buffer are within NDGFD possible range and contain appropriate habitat associations. The species has only been identified in a few locations in the state including the Turtle Mountains along the Canadian border and the riparian corridors of the Little Missouri and Missouri Rivers. To date, no hibernacula have been identified for this species in North Dakota.
Plains pocket mouse (<i>Perognathus flavescens</i>)	–	SCP III	Grasslands with sandy soils or grassy areas with exposed sand dunes.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary range. No secondary range for this species is mapped by NDGFD.

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	Federal	State		
Pygmy shrew (<i>Sorex hoyi</i>)	–	SCP II	Various habitat types including sandy, dry areas, woodlands, and pastures in northeastern North Dakota. Associated with grassland/wetland complexes.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary range. No secondary range for this species is mapped by NDGFD.
Richardson's ground squirrel (<i>Urocitellus richardsonii</i>)	–	SCP II	Rangeland including native or tame grasslands, with sandy loam or gravelly soils, in proximity to agricultural fields.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary range. No secondary range for this species is mapped by NDGFD.
River otter (<i>Lontra canadensis</i>)	–	SCP II	Rivers, streams, wetlands, lakes, and ponds.	May occur year-round. The Development Area and 1-mile buffer are within NDGFD possible range and contain habitat that could be used by the river otter.
Sagebrush vole (<i>Lemmiscus curtatus</i>)	–	SCP III	Semi-arid lands with typically loose, well-drained soil. Vegetation is normally sagebrush or rabbit brush with a grass component.	Unlikely to occur. The Development Area and 1-mile buffer are within NDGFD primary range; however, does not contain appropriate habitat associations.
Swift fox (<i>Vulpes velox</i>)	–	SCP II	Native prairie and open grasslands. Rare in North Dakota and may only occur in extreme western and southwestern portion of the state.	Unlikely to occur. The Development Area and 1-mile buffer are within NDGFD historical range for this species and not within possible range. No primary or secondary range for this species is mapped by NDGFD.
Townsend's big-eared bat (<i>Corynorhinus townsendii</i>)	–	SCP I	Found in the badlands of the Little Missouri River in the western portion of the state.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary range. No secondary range for this species is mapped by NDGFD. The species has only been found in the badlands near the Little Missouri River and in the Turtle Mountains along the Canadian border.
Western small-footed bat (<i>Myotis ciliolabrum</i>)	–	SCP III	Rocky cliffs and steep-sloped areas of western North Dakota along the Missouri and Little Missouri Rivers.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary or secondary range.
Mussels				
Black sandshell (<i>Ligumia recta</i>)	–	SCP II	Medium to large turbid rivers.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary, secondary, or historical range.
Creek heelsplitter (<i>Lasmigona compressa</i>)	–	SCP I	Headwaters of small to medium-sized streams. Has been found in the Pembina, Forest, Wintering, and Sheyenne Rivers.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary or historical range. No secondary range for this species is mapped by NDGFD.

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Creepers (<i>Strophitus undulatus</i>)	–	SCP III	Streams of varying sizes and bottom substrates. In North Dakota, known only from the Forest River, South Branch of the Park River, and the Sheyenne River. The Sheyenne River appears to have the largest population.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary or secondary range.
Deertoe (<i>Truncilla truncata</i>)	–	SCP III	Medium to large rivers with mud, sand, or gravel substrates. In North Dakota, known only from the James River.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary range. No secondary range for this species is mapped by NDGFD.
Fragile papershell (<i>Leptodea fragilis</i>)	–	SCP III	Streams of varying sizes and bottom substrates. In North Dakota, known only from the James River.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary range. No secondary range for this species is mapped by NDGFD.
Mapleleaf (<i>Quadrula quadrula</i>)	–	SCP III	Medium to large rivers with gravel or mud substrates.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary range. No secondary range for this species is mapped by NDGFD.
Pink heelsplitter (<i>Potamilus alatus</i>)	–	SCP II	Large rivers with a channel width between 18 and 63 meters. Found in the Red and Sheyenne Rivers.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary range. No secondary range for this species is mapped by NDGFD.
Pink papershell (<i>Potamilus ohioensis</i>)	–	SCP I	Large river systems with mud, sand, or gravel substrate. Has only been collected from tributaries of the Missouri River with a stream width of 14–30 meters.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary range. No secondary range for this species is mapped by NDGFD.
Threeridge (<i>Amblema plicata</i>)	–	SCP I	Large river systems with mud, sand, or gravel substrate. Within North Dakota, known only from the Red and Sheyenne Rivers.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary range. No secondary range for this species is mapped by NDGFD.
Wabash pigtoe (<i>Fusconaia flava</i>)	–	SCP II	Large river systems with mud or sand substrate. Prefer channel width greater than 11 meters. Within North Dakota, known only from the Red and Sheyenne Rivers.	Unlikely to occur. The Development Area and 1-mile buffer are not within NDGFD primary range. No secondary range for this species is mapped by NDGFD.

Notes: Species include Eagle Act species, SCP Levels I, II, and III species listed in the State Wildlife Action Plan (Dyke et al. 2015), and Birds of Conservation Concern for Bird Conservation Region 17. Range or habitat requirement information and potential occurrence justification from Ammerman et al. (2012), Bat Conservation International (2021), Cornell Lab of Ornithology (2019), Dyke et al. (2015), eBird (2021), Reid (2006), Sibley (2000), USFWS (2019).

* Federal Status Definitions

BCC = Bird of Conservation Concern for Bird Conservation Region 17, BGEPA = Bald and Golden Eagle Protection Act, E = Endangered, T = Threatened

State Status Definitions

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SCP = Species of Conservation Priority; species identified by Dyke et al. (2015) as having conservation priority. SCP Level I species are those categorized by Dyke et al. (2015) as having a “high level of conservation priority”. SCP Level II species are those categorized by Dyke et al. (2015) as having a “moderate level of conservation priority”. SCP Level III species are those categorized by Dyke et al. (2015) as having a “moderate level of conservation priority” but are believed to be peripheral or non-breeding in North Dakota.

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